PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING

AGENDA
April 5, 2023 @ 9:30 a.m.

Charlotte County Administration Center
Commission Chambers, Room 119
18500 Murdock Circle, Port Charlotte, FL

Additional information may be obtained by contacting the Peace River Manasota Regional Water Supply Authority, 9415 Town Center Parkway, Lakewood Ranch, Florida 34202 or through the Authority's website www.regionalwater.org. Persons with disabilities who need assistance may call (941) 316-1776 at least two business days in advance to make appropriate arrangements. No Stenographic record by a certified court reporter is being made of this meeting. Accordingly, any person who may seek to appeal any decisions involving the matters noticed herein will be responsible for making verbatim record of the testimony and evidence at this meeting which may be necessary to appeal such decisions.

BOARD OF DIRECTORS

Commissioner Elton Langford, DeSoto County, Chairman
Commissioner Bill Truex, Charlotte County, Vice Chairman
Commissioner George Kruse, Manatee County
Commissioner Mike Moran, Sarasota County

CALL TO ORDER

INVOCATION

Commissioner Elton Langford

PLEDGE OF ALLEGIANCE

Led by the Board

WELCOME GUESTS

HOST COUNTY REMARKS

PUBLIC COMMENTS

Any individual wishing to address the Board on an item on the Consent Agenda or Regular Agenda ("Voting Agenda Items") or an issue that does not appear on the agenda should complete a 'request to speak' card and submit it to the Authority's recording clerk prior to this Public Comments item. Each person that submits a 'request to speak' card will have three (3) minutes to address the Board. Fifteen (15) minutes is provided for this Public Comment item unless additional time is needed for individuals to address the Board on Voting Agenda Items. If the time limit is exhausted and there are still individuals that want to address the Board on non-Voting Agenda Items, the Board will entertain any remaining comments near the end of the meeting. Comments on Voting Agenda Items will be heard first.

PUBLIC HEARING – AMENDED BUDGET FOR FY 2023

1. Open Public Hearing
2. Presentation of Amended Budget for FY 2023
3. Public Comment
4. Close Public Hearing

FY 2023 AMENDED BUDGET

1. Adoption of Amended Budget for FY 2023
2. Resolution 2023-01 'Resolution Amending Rates, Fees and Charges for FY 2023'

CONSENT AGENDA

1. Minutes of the February 8, 2023 Board of Directors Meeting
2. Resolution 2023-02 'Recognition of the Month of April as Water Conservation Month'
3. Resolution 2023-03 'Recognition of National Drinking Water Week'
4. Award of Contracts for Purchase of Water Treatment Chemicals
5. Repairs to Hurricane Damaged Roofs at the Peace River Facility
6. Programmable Logic Control Panel – Owner Direct Purchase

REGULAR AGENDA

1. Water Supply Conditions Report
2. Legislative Update
3. Authority Insurance Coverage Review and Property Insurance Renewal
4. 5-Year Capital Improvements Plan & 20-Year Capital Needs Assessment
5. Regional Integrated Loop Phase 3C Interconnect Project
    a. Amend Resolution 2022-03 for Regional Integrated Loop Phase 3C Interconnect to Revise Pipeline Route and Authorize Acquisition of Property Rights Required for Construction and Operation of the Project by Negotiation and Contract and, if Necessary, by the Exercise of Eminent Domain Authority.
    b. Approve Regional Integrated Loop Phase 3C Pipeline Contract Amendment and Phase 2 Services
6. Regional Integrated Loop Phase 2B Pipeline Early Procurement Package
7. Peace River Reservoir No. 3 Project Update
8. Peace River Brackish Groundwater Project Consultant Selection

TENTATIVE BUDGET FOR FY 2024

1. Tentative Budget for FY 2024
2. Resolution 2023-05 'Resolution Setting Forth Preliminary Schedules of Rates, Fees and Charges for FY 2024'

GENERAL COUNSEL'S REPORT

1. Master Water Supply Contract Amendment Update

EXECUTIVE DIRECTOR'S REPORT

ROUTINE STATUS REPORTS

1. Hydrologic Conditions Report
2. Check Registers for January and February 2023
3. Peace River Regional Reservoir No. 3 Project (PR3) Feasibility Study
4. Regional Integrated Loop System Phase 2B Interconnect
5. Regional Integrated Loop System Phase 3C Interconnect
6. DeSoto Booster Pumping Station Project
7. Peace River Basin Report

BOARD MEMBER COMMENTS

PUBLIC COMMENTS *(if necessary)*

Individuals who previously submitted a 'request to speak' card to the Authority's recording clerk and there was inadequate time during the initial Public Comments item for them to speak on non-Voting Agenda Items, will be given three (3) minutes per person to speak on such item.

ANNOUNCEMENTS

Next Authority Board Meeting
June 7, 2023 @ 9:30 a.m.
DeSoto County Administration Building
Commission Chambers, First Floor
201 East Oak Street, Arcadia, FL

Future Authority Board Meetings
August 2, 2023 @ 9:30 a.m. – Manatee County
October 4, 2023 @ 9:30 a.m. – Sarasota County
December 6, 2023 @ 9:30 a.m. – DeSoto County

ADJOURNMENT

Visit the Business page of our website *www.regionalwater.org* to access the Agenda Packet

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

PUBLIC HEARING

FY 2023 Amended Budget

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1. Open Public Hearing
2. Presentation of FY 2023 Amended Budget
3. Public Comment
4. Close Public Hearing



Peace River Manasota
Regional Water Supply Authority

FY 23 Proposed Budget Amendment

April 5, 2023



1



01 **FY23 Proposed Budget Updates**

02 **Discussion/Motion**

2

FY23 Budget Amendments

- CIP Project Additions
  - PRF Expansion Pilot Testing/DCP $1.9M
  - Brackish RO Facility – Preliminary Design $1.5M
  - Phase 2B Pipeline – Owner Direct Purchase $20M
- Funding from Authority's Line of Credit - (No Customer Impact)

3

FY23 Budget Amendments

- Variable Rate Expenditures (Facilities Cost Center)
  - Electric Power
    - 2022 Increase: 27%
    - 2023 Increase: 10%
      - 6.4 % Jan 1, 2023
      - 3.6 % April 1, 2023
      - Additional increases could occur if fuel costs increase or due to storm damage

4

FY23 Budget Amendments

- Variable Rate Expenditures (Facilities Cost Center)
  - Water Treatment Chemicals

	2022 Bid % Change	2023 Bid % Change
ALUM	56%	n/a
Coag - Treatment	8%	n/a
Coag - Dewatering	27%	n/a
Caustic Soda	133%	12%
Copper Sulfate	20%	-7%
PAC	87%	24%
Bleach	75%	63%
Ammonia	110%	n/a

5

FY23 Budget Amendments

- Recommendation:
  - Water Use Rate Increase from .89/1000 gallons to $1.00/1000 gallons
  - April – September Delivered Water
    - No Retroactive Charges

6



01 FY23 Proposed Budget Updates

02 **Discussion/Motion**

7

Motion

To approve the FY 2023 Amended Budget in the amount of $101,955,089, including the increase in the use rate from .89/1000 gallons to $1.00/1000 gallons.

8

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

AMENDED BUDGET FOR FY 2023
ITEM 1

Adoption of Amended Budget for FY 2023

Presenter - Ann Lee, MBA,CGFO Finance & Budget Senior Manager

Recommended Action - **Motion** to approve the FY 2023 Amended Budget in the amount of $101,955,089.

The proposed FY 2023 Amended Budget is presented in accordance with the 'Second Amended Interlocal Agreement Creating the Peace River Manasota Regional Water Supply Authority' and the 'Master Water Supply Contract'. The final budget includes all anticipated expenditures of the Authority for its projects and activities for the ensuing fiscal year, including, but not limited to, operating and maintenance costs, management and planning costs, and debt service.

The Budget for FY 2023 was approved by the Board on August 3, 2022. The proposed FY 2023 Amended Budget incorporates increases to the Authority's scheduled CIP, electric power and water treatment chemical expenditures

• FY 2023 Budget	$ 78,327,527
• Proposed Revisions	$ 23,627,562
• FY 2023 Amended Budget	$ 101,955,089

Attachments

Tab A FY 2023 Amended Budget Cost Analysis
Tab B FY 2023 Amended Budget Water Rates and Charges Analysis
Tab C FY 2023 Amended Budget (Proposed)

TAB A
FY 2023 Amended Budget Cost Analysis

Peace River Manasota Regional Water Supply Authority
FY 2023 Proposed Amended Budget

BUDGET COST ANALYSIS			
Enterprise Fund	**FY 2023 Approved**	**FY 2023 Amended**	**Variance +/-**
AVAILABLE FUNDS			
Water Sales	$ 39,917,521	$ 40,160,747	$ 243,226
Member Fee	$ 432,486	$ 432,486	$ -
Customer Planning Assessment	$ 475,000	$ 475,000	$ -
Subtotal	$ 40,825,007	$ 41,068,233	$ 243,226
Estimated Unencumbered Funds from Prior Year	$ 5,519,868	$ 5,519,868	$ -
Federal Direct Payment	$ -	$ -	$ -
Interest Income	$ 40,000	$ 40,000	$ -
Rent Income	$ 92,653	$ 92,653	$ -
Reserve Accounts	$ 5,000,000	$ 5,000,000	$ -
CIP Fund	$ 17,537,000	$ 40,921,335	$ 23,384,335
Grants	$ 9,313,000	$ 9,313,000	$ -
Total Sources	**$ 78,327,528**	**$ 101,955,089**	**$ 23,627,561**
EXPENDITURES			
Insurances	$ 643,500	$ 643,500	$ -
Personnel	$ 7,345,056	$ 7,345,056	$ -
Utilities	$ 2,755,469	$ 2,860,079	$ 104,608
Operating Supplies	$ 135,000	$ 135,000	$ -
Water Treatment Chemicals	$ 8,643,275	$ 8,781,893	$ 138,618
Repairs & Maintenance	$ 2,217,000	$ 2,217,000	$ -
Machinery & Equipment	$ 200,000	$ 200,000	$ -
Contract Services	$ 2,346,500	$ 2,346,500	$ -
General Administration	$ 483,500	$ 483,500	$ -
Subtotal	$ 24,769,300	$ 25,012,527	$ 243,226
Debt Service	$ 11,893,706	$ 11,893,706	$ -
County Payments	$ 796,000	$ 796,000	$ -
Contingencies	$ 500,000	$ 500,000	$ -
Transfer to R&R Account	$ 4,000,000	$ 4,000,000	$ -
Transfer to CIP	$ 3,132,594	$ 3,132,594	$ -
Transfer to Utility Reserve Fund	$ 391,059	$ 391,059	$ -
Transfer to Disaster Recovery Reserve Fund	$ -	$ -	$ -
Water Purchase	$ -	$ -	$ -
Projects	$ 31,325,000	$ 54,709,335	$ 23,384,335
Fund Disbursements	$ 1,519,868	$ 1,519,868	$ -
Total Uses	**$ 78,327,528**	**$ 101,955,089**	**$ 23,627,561**

TAB B
FY 2023 Amended Budget Water Rates and Charges Analysis

Peace River Manasota Regional Water Supply Authority
FY 2023 Proposed Ameded Budget

WATER RATE AND CHARGES ANALYSIS			
Fixed Charges	**FY 2023 Approved**	**FY 2023 Amended**	**Variance +/-**
Charlotte County			
Base Charge	$ 10,270,957	$ 10,270,957	$ -
Base Charge - Pool Water	$ (14,316)	$ (14,316)	$ -
Member Contribution	$ 92,393	$ 92,393	$ -
Planning Assessment	$ 84,201	$ 84,201	$ -
Subtotal	$ 10,433,235	$ 10,433,235	$ -
DeSoto County			
Base Charge	$ 595,887	$ 595,887	$ -
Base Charge - Pool Water	$ 41,993	$ 41,993	$ -
Member Contribution	$ 60,451	$ 60,451	$ -
Planning Assessment	$ 14,038	$ 14,038	$ -
Subtotal	$ 712,369	$ 712,369	$ -
Manatee County			
Base Charge	$ 104,523	$ 104,523	$ -
Member Contribution	$ 136,773	$ 136,773	$ -
Planning Assessment	$ 181,687	$ 181,687	$ -
Subtotal	$ 422,983	$ 422,983	$ -
Sarasota County			
Base Charge	$ 14,857,472	$ 14,857,472	$ -
Base Charge - Pool Water	$ (22,905)	$ (22,905)	$ -
Member Contribution	$ 142,868	$ 142,868	$ -
Planning Assessment	$ 160,554	$ 160,554	$ -
Subtotal	$ 15,137,988	$ 15,137,988	$ -
City of North Port			
Base Charge	$ 2,497,613	$ 2,497,613	$ -
Base Charge - Pool Water	$ (4,772)	$ (4,772)	$ -
Member Contribution	$ -	$ -	$ -
Planning Assessment	$ 34,520	$ 34,520	$ -
Subtotal	$ 2,527,362	$ 2,527,362	$ -
Enterprise Fund			
Base Charge	$ 28,326,452	$ 28,326,452	$ -
Base Charge - Pool Water	$ -	$ -	$ -
Member Contribution	$ 432,485	$ 432,486	$ -
Planning Assessment	$ 475,000	$ 475,000	$ -
Total	$ 29,233,937	$ 29,233,937	$ -

Variable Charges	**FY 2023 Approved**	**FY 2023 Amended**	**Variance +/-**
Water Use Rate Charge			
$/1,000 gallons	$0.89	$1.00	$0.11

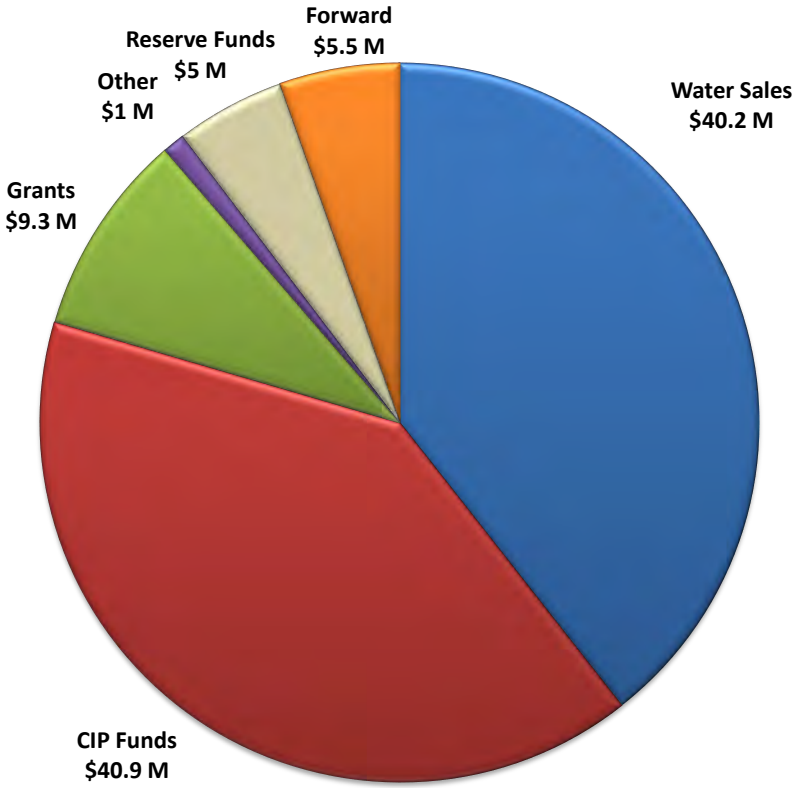
TAB C
FY 2023 Amended Budget (Proposed)

Peace River Manasota
Regional Water Supply Authority

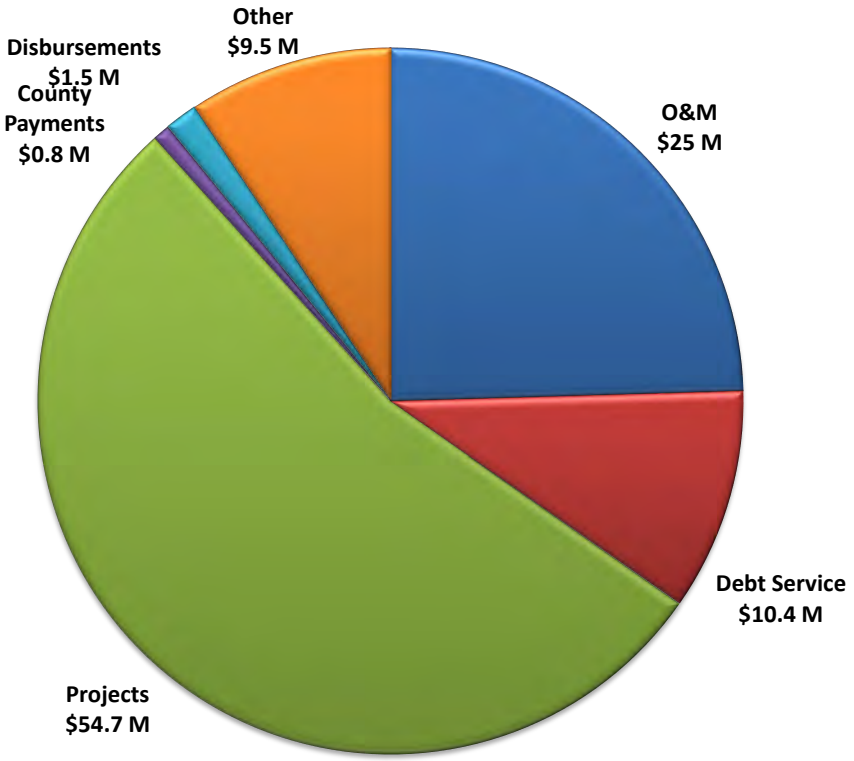
Amended Budget for FY 2023

[April 5, 2023]

AVAILABLE FUNDS
$102 M



EXPENDITURES
$102 M



Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

AVAILABLE FUNDS	Administrative Office	Facilities	Total Enterprise Fund
Revenue			
Water Sales		40,160,747	40,160,747
Member Fee	432,486		432,486
Planning Assessment		475,000	475,000
Anticipated interest		40,000	40,000
Rent Income [including CAM]	92,653		92,653
Subtotal	525,139	40,675,747	41,200,886
Grants			
State Grant Funds		3,876,000	3,876,000
SWFWMD Grant Funds		5,437,000	5,437,000
Subtotal		9,313,000	9,313,000
Reserve Accounts			
Transfer from R&R Reserve Account		4,000,000	4,000,000
Transfer from Rate Stabilization		1,000,000	1,000,000
Subtotal		5,000,000	5,000,000
CIP Fund			
CIP Project Funds		937,000	937,000
CIP Project Funds (From Financing)		38,984,335	38,984,335
System-Wide Benefit CIP Project Funds		1,000,000	1,000,000
Subtotal		40,921,335	40,921,335
Funds Brought Forward			
Carry Forward from FY2022		4,000,000	4,000,000
Funds Brought Forward for Disbursement		1,519,868	1,519,868
Subtotal	-	5,519,868	5,519,868
Total Funds Available	**$ 525,139**	**$ 101,429,950**	**$ 101,955,089**

Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
OPERATION & MAINTENANCE			
Insurances			
Property/Liability/Worker's Compensation		600,000	600,000
Auto		35,000	35,000
Public Officials Liability	8,500		8,500
Subtotal	8,500	635,000	643,500
Personnel			
Administration	490,225	391,300	881,525
Facility Operations/Maintenance/Technical Services		3,767,043	3,767,043
Subtotal	490,225	4,158,343	4,648,568
Benefits			
FICA Taxes	37,502	311,887	349,389
Fla. Retirement System	112,329	622,787	735,116
Health Insurance	149,573	1,462,411	1,611,984
Subtotal	299,404	2,397,084	2,696,488
Utilities			
Electric Power	15,840	2,702,402	2,718,242
Diesel Fuel	-	12,000	12,000
Vehicle Fuel	12,000	43,836	55,836
Telephone	4,000	70,000	74,000
Subtotal	31,840	2,828,239	2,860,079
Operating Supplies			
General Operations		60,000	60,000
Laboratory Supplies		75,000	75,000
Subtotal	-	135,000	135,000
Water Treatment Chemicals			
Aluminum Sulfate		2,913,803	2,913,803
Sodium Hydroxide		1,951,795	1,951,795
Carbon		2,768,344	2,768,344
Coagulant Aid		149,618	149,618
Sodium Hypochlorite		765,331	765,331
Aqua Ammonia		119,809	119,809
Copper Sulfate		113,193	113,193
Subtotal		8,781,893	8,781,893

Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
Repairs & Maintenance			
Water Treatment Facilities		975,000	975,000
Water Resources		630,000	630,000
Land Management		430,000	430,000
Regional Transmission System		140,000	140,000
Vehicle Fleet Maintenance	2,000	40,000	42,000
Subtotal	2,000	2,215,000	2,217,000
Machinery & Equipment			
Machinery & Equipment		200,000	200,000
Contract Services			
Annual Audit	4,000	30,000	34,000
Engineering Services - General		225,000	225,000
Hydrogeological Services		175,000	175,000
Environmental Services		100,000	100,000
Rate Consulting Services		65,000	65,000
Information/Technology Services	20,000	60,000	80,000
Reservoir Permit Monitoring		260,000	260,000
Equipment Rental	5,000	50,000	55,000
Legal Services	25,000	250,000	275,000
Legislative Monitoring Services		45,000	45,000
Off-Site Treatment Residual Hauling and Disposal		350,000	350,000
Outside Lab Services - Drinking Water/ASR/EPA		100,000	100,000
Watershed Programs/Monitoring/Protection [HBMP, MFL, Stewardship]		500,000	500,000
Charlotte Harbor NEP		3,500	3,500
Uniforms		18,000	18,000
Contract Services - Other	6,000	55,000	61,000
Subtotal	60,000	2,286,500	2,346,500

Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
General Administration			
Office Maintenance/Improvements	5,000	5,000	10,000
Administrative Office Common Area Maintenance	38,500		38,500
Advertising	3,500	8,000	11,500
Software	4,000	60,000	64,000
Office Supplies	15,000	35,000	50,000
Postage/Shipping	1,000	6,000	7,000
Books, Dues, Subs & Memberships	8,000	25,000	33,000
Training	2,000	3,000	5,000
Professional Development/Cont. Education	15,000	30,000	45,000
Mileage/Travel Reimbursement	15,000	35,000	50,000
Public Outreach/Education Programs/Website	55,000	65,000	120,000
Misc. Fees [permits, registrations, licenses, certifications, bank charges]	14,500	35,000	49,500
Subtotal	176,500	307,000	483,500
Total - Operations & Maintenance	**$ 1,068,469**	**$ 23,944,059**	**$ 25,012,527**

Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
NON-OPERATION & MAINTENANCE			
Annual Debt Service			
2014 Bond Series		2,795,750	2,795,750
2015 Bond Series		2,526,250	2,526,250
2020 Bond Series		4,807,850	4,807,850
2019 Series Note	244,378		244,378
Subtotal	244,378	10,129,850	10,374,228
County Payments			
DeSoto Payment		796,000	796,000
Subtotal		796,000	796,000
Other Rate Related Expenditures			
Contribution to R&R Reserve		4,000,000	4,000,000
Transfer to CIP (PR^3)		937,000	937,000
Transfer to System-Wide Benefit CIP		2,195,594	2,195,594
Transfer to Utility Reserve Fund		391,059	391,059
Disaster Recovery Reserve		-	-
Contingencies		500,000	500,000
Water Purchase		-	-
Debt Service Coverage Fund		1,519,478	1,519,478
Administrative Costs	(787,708)	787,708	-
Subtotal	(787,708)	10,330,839	9,543,131
Total Rate Related Expenditures	**$ 525,139**	**$ 45,200,747**	**$ 45,725,886**

Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
NON-RATE RELATED EXPENDITURES			
Projects			
CIP Projects		50,234,335	50,234,335
Renewal & Replacement Projects		4,000,000	4,000,000
Management & Planning Projects		475,000	475,000
Subtotal		54,709,335	54,709,335
Fund Disbursements (Debt Coverage Payment FY2022)			
Charlotte County		336,764	336,764
DeSoto County		35,729	35,729
Sarasota County		1,000,049	1,000,049
North Port		147,326	147,326
Subtotal		1,519,868	1,519,868
Total Non-Rate Related Expenditures		**56,229,203**	**56,229,203**
Total Expenditures	**$ 525,139**	**$ 101,429,950**	**$ 101,955,089**

DEBT SERVICE

Customer	2014B Bond Series	2015 Bond Series	2020 Bond Series	Total
Charlotte County	$ 734,164	$ 600,237	$ 910,447	$ 2,244,848
DeSoto County	$ 22,925	$ 181,385	$ 33,566	$ 237,876
Manatee County	$ -	$ -	$ -	$ -
Sarasota County	$ 1,748,742	$ 1,744,628	$ 3,171,769	$ 6,665,139
City of North Port	$ 289,919	$ -	$ 692,067	$ 981,987
Total	$ 2,795,750	$ 2,526,250	$ 4,807,850	$ 10,129,850

2019 Series Note (Administrative Office)	$ 244,378

CAPITAL IMPROVEMENT PROGRAM
Funded CIP Projects

Item No.	CIP Project	FY 2023 Expenditures	Source of Funds			
			CIP Funds	SWFWMD Grant Funds	State Grant Funds	FY 2023 Total
1	Reservoir No. 3 - Preliminary Design	5,250,000	937,000	937,000	3,376,000	5,250,000
2	Regional Integrated Loop - Phase 2B - PDB	24,000,000	22,000,000	2,000,000		24,000,000
3	Regional Integrated Loop - Phase 3C - PDB	16,100,000	13,600,000	2,500,000		16,100,000
4	PRF Expansion Pilot Testing/DCP	1,884,335	1,884,335			1,884,335
5	Brackish Groundwater RO Facility - Preliminary Design	1,500,000	1,500,000			1,500,000
	Total	$ 48,734,335	$ 39,921,335	$ 5,437,000	$ 3,376,000	$ 48,734,335

Item No.	System Wide Benefit CIP Project	FY 2023 Expenditures	Source of Funds			
			CIP Funds	SWFWMD Grant Funds	State Grant Funds	FY 2023 Total
1	Partially Treated Surface Water ASR	500,000	-	-	500,000	500,000
2	Water Resources/Construction Dept. Building	1,000,000	1,000,000	-	-	1,000,000
	Total	$ 1,500,000	$ 1,000,000	$ -	$ 500,000	$ 1,500,000

Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

MANAGEMENT & PLANNING PROJECTS

Item No.	Planning Projects	FY 2023 Expenditure	Funds Brought Forward	Other Funding	FY 2023 Assessment
1	MWSC Modifications	50,000	-	-	50,000
2	Polk Regional Water Cooperative Coordinating Committee	25,000	-	-	25,000
3	Regional Water Supply Planning	400,000		-	400,000
	Total	$ 475,000	$ -	$ -	$ 475,000

SYSTEM-WIDE BENEFIT CIP PROJECT CONTRIBUTION ALLOCATION
10/01/2022 to 09/30/2023

Cost Allocation

[Annual costs to be allocated]		Annual Cost Allocation (1)			
	Total	Filter Covers (2)	Partially Treated Water ASR Project (3)	Ranch House Replacement (3)	Project Prairie Pump Station Acquisition (3)
Charlotte County	970,285	463,977	-	369,313	136,995
DeSoto County	40,629	19,452	-	15,446	5,730
Manatee County	104,523	-	-	76,241	28,281
Sarasota County	907,494	434,006	-	345,373	128,115
City of North Port	172,663	82,565	-	65,720	24,379
Total	$ 2,195,594	$ 1,000,000	$ -	$ 872,094	$ 323,500

(1) Annual Cost Allocation included in Base Rate Charge.
(2) Cost Allocation Pro-Rate Existing Water Allocation.
(3) Cost Allocation Pro-Rate Forecast Water Allocation.

Water Allocation

	Existing Water Allocation (4)		Forecast Water Allocation (5)	
	Water Allocation [MGD]	Water Allocation [Percentage]	Water Allocation [MGD]	Water Allocation [Percentage]
Charlotte County	16.100	46.40%	24.220	42.35%
DeSoto County	0.675	1.95%	1.013	1.77%
Manatee County	0.000	0.00%	5.000	8.74%
Sarasota County	15.060	43.40%	22.650	39.60%
City of North Port	2.865	8.26%	4.310	7.54%
Total	34.700	100.00%	57.193	100.00%

(4) Peace River/Manasota Regional Water Supply Authority Master Water Supply Contract - Exhibit B 'Water Allocations'.
(5) Forecast of Potential Water Allocation for 2040 for cost allocation calculation [does not represent contracted allocation or obligation].

WATER RATE [Authority Customers]

10/01/2022 to 09/30/2023

Total Monthly Water Charge to Customers	
[Charge per Month]	Monthly Charge = Base Rate Charge + (Water Use Charge x Actual Water Delivered)

Base Rate Charge	
[Annual costs to be allocated]	Totals
Other Rate Related Expenditures	
Fixed O & M Cost Component	12,109,763
Contribution to R & R Reserve	4,000,000
Transfer to CIP (PR^3)	937,000
Contingencies	500,000
Transfer to Utility Reserve Fund	391,059
Transfer to Disaster Recovery Reserve	-
Transfer to Administrative Fund	787,708
Projected Interest Earned	(40,000)
Transfer from Rate Stabilization Reserve	(1,000,000)
Funds Brought Forward	(4,000,000)
Sub-Total Other Rate Related Expenditures	$ 13,685,530
Water Purchase	0
Total Other Rate Related Expenditures	$ 13,685,530
Debt Service Cost	
2014 Bonds	2,795,750
2015 Bonds	2,526,250
2020 Bonds	4,807,850
Total Debt Service	$ 10,129,850
Debt Service Coverage Payments	$ 1,519,478
Debt Service Contributions	$ -
County Payments	
DeSoto Payment	796,000
Total County Payments	$ 796,000
System-Wide CIP Contribution	
Transfer out to CIP	2,195,594
Total Base Rate Charge	$ 28,326,452

Annual Base Rate Charge By Customer

	Total	Other Rate Related Expenditures	2014B Bonds	2015 Bonds	2020 Bonds	Debt Service Coverage Payment	DeSoto Payment	System-Wide CIP Contribution	Pool Water Redistribution
Charlotte County	10,256,641	6,349,771	734,164	600,237	910,447	336,727	369,326	970,285	(14,316)
DeSoto County	637,880	266,217	22,925	181,385	33,566	35,681	15,484	40,629	41,993
Manatee County	104,523	-	-	-	-	-	-	104,523	0
Sarasota County	14,834,567	5,939,599	1,748,742	1,744,628	3,171,769	999,771	345,469	907,494	(22,905)
City of North Port	2,492,842	1,129,944	289,919	-	692,067	147,298	65,722	172,663	(4,772)
Total	$ 28,326,452	$ 13,685,530	$ 2,795,750	$ 2,526,250	$ 4,807,850	$ 1,519,478	$ 796,000	$ 2,195,594	$ 0

Monthly Base Rate Charge By Customer

Charlotte County	854,720
DeSoto County	53,157
Manatee County	8,710
Sarasota County	1,236,214
City of North Port	207,737
Total	$ 2,360,538

Water Use Charge

[Charge per 1,000 gallons]	Total
Water Use Rate Charge	$1.00

Master Water Supply Contract Water Allocation

Million Gallons Per Day [MGD]	Annual Average Daily [MGD]
Charlotte County	16.100
DeSoto County	0.675
Manatee County	0.000
Sarasota County	15.060
City of North Port	2.865
Total	34.700

MEMBER FEE

10/01/2022 to 09/30/2023

Contribution Amount to be Derived

	Totals
Administrative Office Authority Support	$ 525,139
Projected Interest Earned	$ -
Rental Income	$ (92,653)
Amount to be Derived	$ 432,486

Population Basis

	*Population 1/31/2022	% of Total Population
Charlotte County	190,570	17.73%
DeSoto County	31,772	2.96%
Manatee County	411,209	38.25%
Sarasota County	441,508	41.07%
Total	1,075,059	100.00%

Weighted Contribution

	Base Contribution	Pro Rated Share	
Charlotte County	$ 54,061	$ 38,332	$ 92,393
DeSoto County	$ 54,061	$ 6,391	$ 60,451
Manatee County	$ 54,061	$ 82,713	$ 136,773
Sarasota County	$ 54,061	$ 88,807	$ 142,868
Total Weighted Contribution			$ 432,486

Member Contribution Formula:

Base Contribution = 1/2 amount to be derived divided by 4

Pro rated share = 1/2 amount to be derived times % of Population

* Source: 'Florida Estimates of Population 2021' [Bureau of Economic and Business Research; University of Florida, January 31, 2022]

PLANNING ASSESSMENT
10/01/2022 to 09/30/2023

Planning Assessments [Annual costs to be allocated]	Total	Planning Assessment Allocation (1)		
		MWSC Modifications	Polk Regional Water Cooperative Coordinating Committee	Regional Water Supply Feasibility Planning
Charlotte County	84,201	8,863	4,432	70,906
DeSoto County	14,038	1,478	739	11,821
Manatee County	181,687	19,125	9,562	153,000
Sarasota County	160,554	16,900	8,450	135,203
City of North Port	34,520	3,634	1,817	29,070
Total	$ 475,000	$ 50,000	$ 25,000	$ 400,000

(1) Planning Assessment invoiced on October 1, 2019.
(2) Plannng Assessment Allocation Pro-Rata Population.

Population	*Population 1/31/2022	Population [Percentage]
Charlotte County	190,570	17.73%
DeSoto County	31,772	2.96%
Manatee County	411,209	38.25%
Sarasota County	363,379	33.80%
City of North Port	78,129	7.27%
Total	1,075,059	100.00%

* Source: 'Florida Estimates of Population 2021' [Bureau of Economic and Business Research; University of Florida, January 31, 2022]

INTERCONNECT WATER CHARGE [GOVERNMENT RATE]

10/01/2022 to 09/30/2023

Water Charge to Municipalities Interconnected to Regional Transmission System		
[Charge per 1,000 Gallons]		
Water Rate		
[Charge per 1,000 Gallons]		
	$3.30	Water Rate Charge in $/1,000 gallons metered water delivery for cumulative delivery to all interconnects up to quantity identified as 'Available from Pool' in the Redistribution Pool for the current fiscal year.
	$6.60	Water Rate Charge in $/1,000 gallons metered water delivery for cumulative delivery to all interconnects in excess of the quantity identified as 'Available from Pool' in the Redistribution Pool for the current fiscal year.

Revenue received from these water sales will, at the discretion of the Authority Board, be applied as a credit toward the obligations of the Authority Customers apportioned to each of their allocations to the 'Available from Pool' in the Redistribution Pool for the current fiscal year. Water rate for emergency use unless Interlocal Agreement provides alternative water rate.

REDISTRIBUTION POOL
10/01/2022 to 09/30/2023

Redistribution Pool Water Quantities	(1) Water Allocation [MGD]	(2) New Water Supply [MGD]	Total Contracted Allocation [MGD]	(3) Available for Pool [MGD]	Requested from Pool [MGD]	(4) Budget Allocation [MGD]
Charlotte County	16.100	0.000	16.100	1.500	(0.016)	16.100
DeSoto County	0.675	0.000	0.675	0.000	0.048	0.723
Sarasota County	15.060	0.000	15.060	2.400	(0.026)	15.060
City of North Port	2.865	0.000	2.865	0.500	(0.005)	2.865
Total	34.700	0.000	34.700	4.400	0.000	34.748

Redistribution Pool Water Base Rate Charge Adjustment	Annual Cost [$/Year]	Annual Unit Cost [$/MGD]
Peace River Facility REP Debt Service	6,725,500	457,517
Non-Capital Component	13,685,530	394,396
DeSoto Payment	796,000	22,939
Redistribution Pool Water Base Rate		$ 874,852

(1) Peace River/Manasota Regional Water Supply Authority Master Water Supply Contract - Exhibit B 'Water Allocations' (Peace River Facility water allocations).

(2) Peace River/Manasota Regional Water Supply Authority Master Water Supply Contract - Exhibit C 'New Water Supply Demands'.

(3) Pool water based on Customer submittals (January 2020).

(4) Total annual average water allocated for FY 2021 budget.

Redistribution Pool Base Rate Charge Adjustment by Customer	Annual Base Rate Adjustment		Monthly Base Rate Adjustment	
	To Pool	From Pool	To Pool	From Pool
Charlotte County	0.016	(14,316)	0.001	(1,193)
DeSoto County	(0.048)	41,993	(0.004)	3,499
Sarasota County	0.026	(22,905)	0.002	(1,909)
City of North Port	0.005	(4,772)	0.000	(398)
Total	($0)	$0	$0	$0

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

FY 2023 AMENDED BUDGET
ITEM 2

Resolution 2023-01 'Resolution Setting Forth Amended Rates, Fees and Charges for FY 2023'

Presenter - Ann Lee, MBA,CGFO Finance & Budget Senior Manager

Recommended Action - **Motion** to approve Resolution 2023-01 'Resolution Setting Forth Amended Rates, Fees and Charges for FY 2023'.

Resolution 2023-01 formalizes the Board adoption of the Amended Budget for FY 2023 and establishes the amended rates, fees and charges by the Authority for FY 2023 in accordance with the 'Second Amended Interlocal Agreement Creating the Peace River Manasota Regional Water Supply Authority' and the 'Master Water Supply Contract'.

Attachments:
Resolution 2023-01 'Resolution Setting Forth Amended Rates, Fees and Charges for FY 2023'

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Resolution 2023-01

RESOLUTION SETTING FORTH AMENDED RATES, FEES AND CHARGES FOR FY 2023

The Peace River Manasota Regional Water Supply Authority, created pursuant to Chapter 373.1962, Florida Statutes, subsequently reenacted as Section 373.713, Florida Statutes, and Interlocal agreement pursuant to Chapter 163.01, *et seq*., Florida Statutes, in lawful session and in regular order of business properly presented, finds that:

WHEREAS, the Second Amended Interlocal Agreement Creating the Peace River Manasota Regional Water Supply Authority entered into on October 5, 2005 provides that:

'The Authority shall establish a final budget and corresponding rate resolution no later than August 15, for the ensuing Contract Year. The final budget shall include all anticipated expenditures of the Authority for its projects and activities for the ensuing Contract Year, including, but not necessarily limited to, Operating and Maintenance Cost, Management and Planning Costs, and Debt Service Cost.' and

WHEREAS, the Authority has entered into the Peace River Manasota Regional Water Supply Authority Master Water Supply Contract with Charlotte County, DeSoto County, Manatee County, Sarasota County, and with the City of North Port on October 5, 2005 (as amended August 5, 2015) for the purpose of supplying water produced by the Authority from the Peace River Facility and new water supply sources; and

WHEREAS, the Master Water Supply Contract provides that:

''For each Contract Year, each Customer with a Water Allocation from the Regional Water System shall pay the Authority the Water Rate adopted by resolution of the Authority Board.' and

WHEREAS, the Authority Board of Directors adopted the Budget for FY 2023 at their regularly scheduled meeting on August 3, 2022.

WHEREAS, the Authority has increased Capital Improvements Program spending and encountered significant additional costs for water production since the adoption of the FY 2023 Budget on August 3, 2022; and

WHEREAS, the Authority Board of Directors conducted a public hearing on the Amended Budget for FY 2023 on April 5, 2023 setting forth amended schedules of rates, fees and charges in compliance with Section 153.11(3) Florida Statues; and

WHEREAS, the Authority Board of Directors adopted the Amended Budget for FY 2023 at their regularly scheduled meeting on April 5, 2023.

NOW, THEREFORE, BE IT RESOLVED:

Section 1. The Peace River Manasota Regional Water Supply Authority does hereby set forth amended schedules establishing rates, fees and charges for the period beginning October 1, 2022 through

September 30, 2023 attached hereto as Exhibit A.

Section 2. Conservation Charge for Exceedance.

In the event a Customer, other than an 'Exclusive Provider Customer' as defined in the Master Water Supply Contract, should receive delivery of water in excess of their respective water allocation (as adjusted by New Water Supply Demand and/or Redistribution Pool) provided in the Master Water Supply Contract for the period beginning October 1, 2022 through September 30, 2023, the exceeding Customer shall pay an additional charge, Conservation Charge for Exceedance, derived as follows unless the exceedance is the result of an emergency transfer as determined by the Authority Board, in which case no additional charge shall be placed upon the excess water usage occasioned by the emergency.

The Conservation Charge for Exceedance shall be based solely on Annual Average Day (AAD) Water Allocation set forth in Exhibit B of the Master Water Supply Contract (the Conservation Charge for Exceedance does not apply to the Peak Month Average Day and the Maximum Day Water Allocations if exceeded). Delivery of water shall be as recorded by the Authority's meters at the points of connection between the Authority transmission system and the distribution system of the customer.

Exceedance of AAD for Fiscal Year	**Conservation Rate Calculation**
1st Exceedance	No penalty. Customer liable only for the Base Rate Charge set by resolution plus Water Use Charge set by resolution for their actual metered water usage. The Authority shall assist the customer in the performance of a water audit of its water system and implementation of audit recommendations.
2nd Exceedance	Customer liable for the Base Rate Charge set by resolution plus 125% of the Redistribution Pool Water Base Rate Charge for water delivered in exceedance of Water Allocation plus Water Use Charge set by resolution for their actual metered water usage.
3rd Exceedance	Customer liable for the Base Rate Charge set by resolution plus 150% of the Redistribution Pool Water Base Rate Charge for water delivered in exceedance of Water Allocation plus Water Use Charge set by resolution for their actual metered water usage.
4th and all Subsequence Exceedances	Customer liable for the Base Rate Charge set by resolution plus 200% of the Redistribution Pool Water Base Rate Charge for water delivered in exceedance of Water Allocation and Water Use Charge set by resolution for their actual metered water usage.

The Conservation Charge for Exceedance is progressive and penalty for exceedance is applied in subsequent fiscal years as provided above. The exceedances do not need to be in consecutive years and the

number of exceedances does not reset each year. The Conservation Charge for Exceedance is not applicable to an Exclusive Provider Customer.

The additional revenue received from such exceedance will, at the discretion of the Authority Board, be applied to the funding for management and planning as provided in section 17 of the MWSC for future water supply development.

Done at Arcadia, Florida this Fifth day of April 2023.

Peace River Manasota
Regional Water Supply Authority

Attest:

Mike Coates
Executive Director

Commissioner Elton Langford
Chairman

Approved as to Form:

Douglas Manson
General Counsel for Peace River Manasota
Regional Water Supply Authority

Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

WATER RATE [Authority Customers]

10/01/2022 to 09/30/2023

Total Monthly Water Charge to Customers [Charge per Month]	Monthly Charge = Base Rate Charge + (Water Use Charge x Actual Water Delivered)

Base Rate Charge [Annual costs to be allocated]	Totals
Other Rate Related Expenditures	
Fixed O & M Cost Component	12,109,763
Contribution to R & R Reserve	4,000,000
Transfer to CIP (PR[3])	937,000
Contingencies	500,000
Transfer to Utility Reserve Fund	391,059
Transfer to Disaster Recovery Reserve	-
Transfer to Administrative Fund	787,708
Projected Interest Earned	(40,000)
Transfer from Rate Stabilization Reserve	(1,000,000)
Funds Brought Forward	(4,000,000)
Sub-Total Other Rate Related Expenditures	$ 13,685,530
Water Purchase	0
Total Other Rate Related Expenditures	$ 13,685,530
Debt Service Cost	
2014 Bonds	2,795,750
2015 Bonds	2,526,250
2020 Bonds	4,807,850
Total Debt Service	$ 10,129,850
Debt Service Coverage Payments	$ 1,519,478
Debt Service Contributions	$ -
County Payments	
DeSoto Payment	796,000
Total County Payments	$ 796,000
System-Wide CIP Contribution	
Transfer out to CIP	2,195,594
Total Base Rate Charge	$ 28,326,452

Exhibit A
Resolution 2023-01
April 5, 2023

Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

Annual Base Rate Charge By Customer

	Total	Other Rate Related Expenditures	2014B Bonds	2015 Bonds	2020 Bonds	Debt Service Coverage Payment	DeSoto Payment	System-Wide CIP Contribution	Pool Water Redistribution
Charlotte County	10,256,641	6,349,771	734,164	600,237	910,447	336,727	369,326	970,285	(14,316)
DeSoto County	637,880	266,217	22,925	181,385	33,566	35,681	15,484	40,629	41,993
Manatee County	104,523	-	-	-	-	-	-	104,523	0
Sarasota County	14,834,567	5,939,599	1,748,742	1,744,628	3,171,769	999,771	345,469	907,494	(22,905)
City of North Port	2,492,842	1,129,944	289,919	-	692,067	147,298	65,722	172,663	(4,772)
Total	$ 28,326,452	$ 13,685,530	$ 2,795,750	$ 2,526,250	$ 4,807,850	$ 1,519,478	$ 796,000	$ 2,195,594	$ 0

Monthly Base Rate Charge By Customer

Charlotte County	854,720
DeSoto County	53,157
Manatee County	8,710
Sarasota County	1,236,214
City of North Port	207,737
Total	$ 2,360,538

Water Use Charge

[Charge per 1,000 gallons]	Total
Water Use Rate Charge	$1.00

Master Water Supply Contract Water Allocation

Million Gallons Per Day [MGD]	Annual Average Daily [MGD]
Charlotte County	16.100
DeSoto County	0.675
Manatee County	0.000
Sarasota County	15.060
City of North Port	2.865
Total	34.700

Peace River Manasota Regional Water Supply Authority
FY 2023 Amended Budget

MEMBER FEE

10/01/2022 to 09/30/2023

Contribution Amount to be Derived

	Totals
Administrative Office Authority Support	$ 525,139
Projected Interest Earned	$ -
Rental Income	$ (92,653)
Amount to be Derived	$ 432,486

Population Basis

	*Population 1/31/2022	% of Total Population
Charlotte County	190,570	17.73%
DeSoto County	31,772	2.96%
Manatee County	411,209	38.25%
Sarasota County	441,508	41.07%
Total	1,075,059	100.00%

Weighted Contribution

	Base Contribution	Pro Rated Share	
Charlotte County	$ 54,061	$ 38,332	$ 92,393
DeSoto County	$ 54,061	$ 6,391	$ 60,451
Manatee County	$ 54,061	$ 82,713	$ 136,773
Sarasota County	$ 54,061	$ 88,807	$ 142,868
Total Weighted Contribution			$ 432,486

Member Contribution Formula:

Base Contribution = 1/2 amount to be derived divided by 4

Pro rated share = 1/2 amount to be derived times % of Population

* Source: 'Florida Estimates of Population 2021' [Bureau of Economic and Business Research; University of Florida, January 31, 2022]

PLANNING ASSESSMENT
10/01/2022 to 09/30/2023

Planning Assessments [Annual costs to be allocated]	Total	Planning Assessment Allocation (1)		
		MWSC Modifications	Polk Regional Water Cooperative Coordinating Committee	Regional Water Supply Feasibility Planning
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Total	$ 475,000	$ 50,000	$ 25,000	$ 400,000

(1) Planning Assessment invoiced on October 1, 2019.
(2) Plannng Assessment Allocation Pro-Rata Population.

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Total	1,075,059	100.00%

* Source: 'Florida Estimates of Population 2021' [Bureau of Economic and Business Research; University of Florida, January 31, 2022]

INTERCONNECT WATER CHARGE [GOVERNMENT RATE]

10/01/2022 to 09/30/2023

Water Charge to Municipalities Interconnected to Regional Transmission System		
[Charge per 1,000 Gallons]		
Water Rate		
[Charge per 1,000 Gallons]		
	$3.30	Water Rate Charge in $/1,000 gallons metered water delivery for cumulative delivery to all interconnects up to quantity identified a 'Available from Pool' in the Redistribution Pool for the current fiscal year
	$6.60	Water Rate Charge in $/1,000 gallons metered water delivery for cumulative delivery to all interconnects in excess of the quantity identified a 'Available from Pool' in the Redistribution Pool for the current fiscal year

Revenue received from these water sales will, at the discretion of the Authority Board, be applied as a credit toward the obligations of the Authority Customers apportioned to each of their allocations to the 'Available from Poc in the Redistribution Pool for the current fiscal year. Water rate for emergency use unless Interlocal Agreement provides alternative water rate

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

CONSENT AGENDA
ITEM 1

Minutes of February 8, 2023 Board of Directors Meeting

Recommended Action - **Motion** to approve minutes of February 8, 2023 Board of Directors Meeting.

Draft minutes of the February 8, 2023 Board of Directors Meeting are provided for Board approval.

Attachments:
Draft Minutes of February 8, 2023 Board of Directors Meeting

Minutes of Board of Directors Meeting
PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
Peace River Facility
Water Quality & Training Center
8998 SW County Road 769 (Kings Highway), Arcadia, FL 34269
February 8, 2023 @ 9:30 a.m.

Board Members Present:

Commissioner Elton Langford, DeSoto County, Chairman
Commissioner Bill Truex, Charlotte County, Vice-Chairman
Commissioner Mike Moran, Sarasota County
Commissioner George Kruse, Manatee County

Staff Present:

Mike Coates, Executive Director
Doug Manson, General Counsel
Richard Anderson, Director of Operations
Terri Holcomb, Director of Engineering
Jim Guida, Director of Water Resources & Planning
Ann Lee, Finance & Budget Sr. Manager
Mike Knowles, Engineering & Projects Sr. Manager
Rachel Kersten, Executive Assistant & Agency Clerk

Others Present:

A list of others present who signed the attendance roster for this meeting is filed with the permanent records of the Authority.

CALL TO ORDER

Commissioner Langford called the meeting to order at 9:30 a.m.

INVOCATION

Commissioner Langford offered the invocation.

PLEDGE OF ALLEGIANCE

The Board led the Pledge of Allegiance to the Flag of the United States.

WELCOME GUESTS

HOST COUNTY REMARKS

Authority Executive Director, Mike Coates made welcoming remarks.

PUBLIC COMMENTS

Public comment made by Lauren Knowles, Sarasota County.

AWARDS/RECOGNITIONS

1. Employee Service Recognition Awards

Richard Anderson along with the members of the Board presented service recognition awards to the dedicated employees who achieved significant milestones in longevity with the Authority.

2. Recognition of Government Finance Officers Association's Certificate of Achievement for Excellence in Financial Reporting for FY 2021 Award

Mike Coates announced that for the fourth consecutive year the Government Finance Officers Association of the United States and Canada (GFOA) has awarded the Certificate of Achievement for Excellence in Financial Reporting to Peace River Manasota Regional Water Supply Authority for its annual comprehensive financial report for the fiscal year ended September 30, 2021, and recognized Ms. Ann Lee and the Authority's finance & budget department for their work in achieving this award.

3. Florida Section/American Water Works Association (AWWA) Awards

Terri Holcomb on behalf of the Florida Section of the American Water Works Association presented the following awards:

a. Best Paper Award – to Ford Ritz and Terri Holcomb; and Douglas Eckmann, Heather Ripley, and Jordan Miller, Kimley-Horn and Associates for "Using a GIS Total Model to Quantitatively Analyze Large Pipeline Route Alternatives."
b. Operators and Maintenance Council Chair Service Award – to Andrew Greenbaum
c. Public Affairs Council Chair Service Award – to Terri Holcomb
d. Volunteer of the Year (Region X) – to Katie Gilmore, Manatee County Utilities
e. Recognition of the Authority BBQ Team - Shawn Lewis, Donald Morton, and Tim Grannell for their achievement in taking First-Place Chicken, First-Place Pork Ribs, and First-Place Overall - BBQ Grand Champion at the Florida Section AWWA 2022 Annual Fall Conference.

CONSENT AGENDA

1. **Approve Minutes of the December 7, 2022, Board of Directors Meeting**
2. **Approve Receive and File of Year-End Financial Status and Semi-Annual Investment Reports for FY 2022**
3. **Approve First Amendment to SWFWMD Co-Funding Agreement # 22CF0003723 (DeSoto Booster Station Project)**
4. **Approve Change Order No. 3 (Project Close-Out) for Trains 5 and 6 Rehabilitation Project at the Peace River Facility**

Motion was made by Commissioner Truex, seconded by Commissioner Moran, to approve the Consent Agenda. Motion was approved unanimously.

REGULAR AGENDA

1. Water Supply Conditions Report

Mr. Anderson presented the Water Supply Conditions at the Peace River Facility as of January 19, 2023 for the Board's information.

- Water Supply Quantity: Excellent
- Treated Water Quality: Excellent

January Water Demand	29.60 MGD
January River Withdrawals	24.6 MGD
Storage Volume: Reservoirs ASR Total	 6.79 BG 8.78 BG 15.57 BG

2. FY 2022 Annual Comprehensive Financial Report and Independent Auditors' Report

Ann Lee along with Tiffany Mangold of Purvis Gray& Company presented on the Authority's FY 2022 Annual Comprehensive Financial Report and Independent Auditors' Report.

The firm of Purvis Gray & Company completed the annual audit of the Authority's financial records for the fiscal year ending September 30, 2022. There were no matters involving the internal control over financial reporting or significant deficiencies in operation noted in the audit that would be considered a material weakness.

Staff recommends the Board 'receive and file' the Annual Comprehensive Financial Report and Independent Auditors' Report of the Authority for period ending September 30, 2022 and approve its submittal to the GFOA Certificate of Achievement for Excellence in Financial Reporting Program, pending the changes related to GASB 68.

Motion was made by Commissioner Truex, seconded by Commissioner Kruse to receive and file 'Peace River Manasota Regional Water Supply Authority FY 2022 Annual Comprehensive Financial Report and Independent Auditors' Report' as submitted and approve its submittal to the GFOA Certificate of Achievement for Excellence in Financial Reporting Program, pending the changes related to GASB 68. Motion was approved unanimously.

3. Hurricane Ian Damage and Repair Update

Chris Rogers along with Ann Lee presented an update on Hurricane Ian damage, ongoing repairs, insurance, and FEMA reimbursement.

While the Authority's Regional supply and transmission facilities continued to operate and deliver water throughout Hurricane Ian, some of these facilities did sustain damage. At the December 7, 2022, meeting the Board authorized transfer of $150,000 from the Disaster Recovery Reserve (DRR) to the General Fund for expenses related to Hurricane Ian, and also authorized the Executive Director to continue to transfer Disaster Recovery Reserve funds to the General Fund up to a total of $500,000 for Hurricane Ian expenses.

As of January 31st, the Authority has expended $326,751 on hurricane related repairs. Additional repairs are both underway and pending that will require additional funds (above the currently authorized $500,000 from the DRR) to complete.

Staff recommended the Board authorize the Executive Director to approve transfer of funds from the Disaster Recovery Reserve to the General Fund up to a total of $1,000,000 for Hurricane Ian repairs.

Commissioner Moran asked for clarification on the transfer and use of these Disaster Recovery funds, and if there was a timeline or plan to replenish these reserves.

Ms. Lee explained that the timeline is going to be largely dependent on the property insurance company and FEMA's claims processing response time. However, her experience thus far is that they have both been fairly quick to respond. Regarding the Disaster Recovery funds replenishment, Ms. Lee stated that she believes we could handle this within our normal budget process in the same way we do the Utility Reserve fund contributions, as a portion of the base rate calculations.

Motion was made by Commissioner Truex, seconded by Commissioner Kruse to authorize the Executive Director to approve transfer of funds from the Disaster Recovery Reserve as appropriate to continue Hurricane Ian related repairs at Authority facilities up to a total of $1,000,000. Motion was approved unanimously.

4. FY 2023 Budget Amendment Preview

Ms. Lee discussed an amendment of the Authority's FY 2023 Budget to reflect changes associated with factors, such as unanticipated events, cost increases and additions to CIP expenses. Staff proposes to bring an amended 2023 budget to the Board at the April meeting.

5. FY 2024 Budget - Schedule and Budget Considerations

Mr. Coates provided budget considerations for Board direction in preparation of the FY 2024 Budget. The tentative budget will be brought to the Board for consideration at the April meeting.

6. CIP Grant Funding Update

Ms. Holcomb presented a progress update on the Authority's CIP grant funding initiative for the Board's information.

At the October 2022 Board Meeting, the Board approved staff to pursue state funding through the State of Florida legislative local funding initiative programs in the house and senate for three regional water supply projects. Ms. Holcomb explained that in addition, staff has been pursuing additional funding opportunities through the SWFWMD's Cooperative Funding Initiative and the Resilient Florida Program for these regional projects. The three projects and their respective future (FY23&24) funding dollar requests by funding program are described in the table below:

Project	Resilient Florida Program		SWFWMD Cooperative Funding		FEDP AWS Program	Requested State Funds FY23-24	Estimated Total Project Cost
	FY22	FY23	FY23	FY24	FY23		
PR3	$7.25M	$15.0M	-	$29.0M	-	$25.0 M	$571.6 M
Phase 2B	-		$0.75M	$15.0M	$1.5M	$5.0 M	$75.0 M
Phase 3C	-		$1.25M	$11.0M	$2.5M	$5.0 M	$69.6 M

Funding has been secured.

$13.25M in grant funding has already been secured for these regional projects. An additional $105M in grant funding requests have been submitted for the next year's funding cycle.

7. Regional Integrated Loop Phase 3C Interconnect – Update on Early Procurement of Materials

Mike Knowles presented an update on the early procurement of materials for the Authority's Regional Integrated Loop Phase 3C Pipeline Project for the Board's information.

Mr. Knowles explained that the Phase 3C Pipeline Project includes installation of approximately 9 miles of 42-inch diameter pipe in northern Sarasota County. The Garney Companies, Inc. Design-Build Team was approved at the August 3rd Board meeting to deliver the project through a Progressive Design Build procurement which is intended meet the compressed time schedule to have the Project online to meet Sarasota County's needs by March of 2025.

The Phase 1 Scope and Fee for Design Services on the project approved at the October 2022 Board meeting, will develop the design of the pipelines and pump station to a 60% design level as well as provide the Authority with a Guaranteed Maximum Price (GMP) to complete the remaining design, permitting and construction as part of Phase 2 of the Project. In conjunction with these design efforts, in order to meet a spring 2025 project completion date, it will be necessary for the Authority (as owner) to immediately begin purchase of certain long-lead items for the Phase 3C Regional Interconnect. Owner Direct Purchase (ODP) included long lead items and was approved in the December 2022 Board meeting, with a total estimated cost of not-to-exceed $10 Million. The Contractor solicited bids for these ODP items are shown in Table 1.

Table 1 – Current ODP Purchase Orders

Item	Company	Purchase Order
Valves	Ferguson Waterwork	$540,468.92
Pipe	American Spiral Welded Pipe Company	$7,866,075.00
	Total	$8,406,543.92

The Regional Integrated Loop Phase 3C Pipeline Project – Phase 2 Contract Addendum for final design, construction permitting, construction, testing, commissioning, turnover services, and development of the GMP is scheduled to be presented for Board consideration at the April 2023 Board Meeting.

GENERAL COUNSEL'S REPORT

Mr. Manson provided an update on the status of the Master Water Supply Contract Revisions for the Board's information.

EXECUTIVE DIRECTOR'S REPORT

Mr. Coates provided a legislative update for the Board's information.

ROUTINE STATUS REPORTS

There were no Board comments on routine status reports.

BOARD MEMBER COMMENTS

There were no additional Board Member comments.

PUBLIC COMMENTS

No additional public comments were made.

ANNOUNCEMENTS

Next Authority Board Meeting
April 5, 2023 @ 9:30 a.m.
Charlotte County Administration Center
Commission Chambers, Room 119
18500 Murdock Circle, Port Charlotte, Florida

Future Authority Board Meetings
June 7, 2023 @ 9:30 a.m. – DeSoto County
August 2, 2023 @ 9:30 a.m. – Manatee County
October 4, 2023 @ 9:30 a.m. – Sarasota County
December 6, 2023 @ 9:30 a.m. – DeSoto County

ADJOURNMENT

There being no further business to come before the Board, the meeting adjourned at 11:20 a.m.

_____
Commissioner Elton Langford
Chairman

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

CONSENT AGENDA
ITEM 2

Resolution 2023-02
'Recognition of the Month of April as Water Conservation Month'

Recommended Action - **Motion** to approve Resolution 2023-02 'Recognition of the Month of April as Water Conservation Month'.

By adoption of this resolution, the Authority will be joining with the State of Florida, water management districts, local governments, and water-related organizations in recognizing the importance of water conservation in sustaining our water resources.

Attachments:
Resolution 2023-02 'Recognition of the Month of April as Water Conservation Month'

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Resolution 2023-02

RECOGNITION OF THE MONTH OF APRIL
AS WATER CONSERVATION MONTH

The Peace River Manasota Regional Water Supply Authority, created pursuant to Chapter 373.1962, Florida Statutes, subsequently reenacted as Section 373.713, Florida Statutes, and Interlocal agreement pursuant to Chapter 163.01, *et seq*., Florida Statutes, in lawful session and in regular order of business properly presented, finds that:

WHEREAS, water is a basic and essential need and critical issue facing Florida as it strives to maintain economic prosperity through residential growth, tourism, agriculture and construction; and,

WHEREAS, demands on natural supplies of fresh water to meet the needs of a growing population and the needs of the environment, agriculture and industry will continue to increase; and,

WHEREAS, the State of Florida, Southwest Florida Water Management District, Authority and local governments are working together to increase awareness about the importance of water conservation; and,

WHEREAS, the State of Florida has designated April, typically a dry month when water demands are most acute, Florida's Water Conservation Month, to educate citizens about how they can help save Florida's precious water resources; and,

WHEREAS, the Authority and its member counties encourage and support water conservation and efficiency through various educational programs and special events; and,

WHEREAS, every business, industry, school and citizen can make a difference when it comes to water conservation and thus promote a healthy economy and community.

NOW, THEREFORE, BE IT RESOLVED, by the Peace River Manasota Regional Water Supply Authority Board of Directors that the month of April is proclaimed as 'Water Conservation Month' and is calling upon each citizen and business to help protect our precious resource by practicing water saving measures and becoming more water efficient.

Done at Charlotte, Florida this Fifth day of April 2023.

Peace River Manasota
Regional Water Supply Authority

Attest:

_____
Mike Coates
Executive Director

_____
Commissioner Elton A. Langford
Chairman

Approved as to Form:

_____
Douglas Manson
General Counsel for Peace River Manasota
Regional Water Supply Authority

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

CONSENT AGENDA
ITEM 3

Resolution 2023-03
'Recognition of National Drinking Water Week'

Recommended Action - **Motion** to approve Resolution 2023-02 'Recognition of National Drinking Water Week'.

The importance of water is too often overlooked. Safe drinking water is the lifeblood of our communities, yet few people understand the true value of what comes from their tap. The Authority is pleased to take this opportunity with the American Water Works Association to remind everyone that a reliable water system is essential to their everyday life by proclaiming May 7-13, 2023 as 'National Drinking Water Week'.

Attachments:
Resolution 2023-03 'Recognition of National Drinking Water Week'

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Resolution 2023-03

RECOGNITION OF NATIONAL DRINKING WATER WEEK

The Peace River Manasota Regional Water Supply Authority, created pursuant to Chapter 373.1962, Florida Statutes, subsequently reenacted as Section 373.713, Florida Statutes, and Interlocal agreement pursuant to Chapter 163.01, *et seq*., Florida Statutes, in lawful session and in regular order of business properly presented, finds that:

WHEREAS, water is our most valuable natural resource; and,

WHEREAS, drinking water is a basic and essential need for the health, safety and welfare of the public; and,

WHEREAS, our standard of living and economic prosperity depends upon a safe and reliable water supply that is sustainable and protective of our natural resources; and,

WHEREAS, a reliable, sustainable, safe and affordable drinking water supply is critical in supporting our economic growth and quality of life now and for future generations; and,

WHEREAS, all citizens of our communities are called upon to be good stewards in protecting our source waters from pollution, to practice water conservation, and to get involved in local water issues; and

WHEREAS, for more than 40 years the American Water Works Association and its members have celebrated Drinking Water Week – a unique opportunity for both water professionals and the communities they serve to join together in recognizing the vital role water plays in our lives.

NOW, THEREFORE, BE IT RESOLVED, by the Authority Board of the Peace River Manasota Regional Water Supply Authority that May 7-13, 2023 is proclaimed as 'National Drinking Water Week'.

Done at Charlotte, Florida this Fifth day of April 2023.

Peace River Manasota
Regional Water Supply Authority

Attest:

_____
Mike Coates
Executive Director

_____
Commissioner Elton A. Langford
Chairman

Approved as to Form:

_____
Douglas Manson
General Counsel for Peace River Manasota
Regional Water Supply Authority

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

CONSENT AGENDA
ITEM 4

Award Contracts for Purchase of Water Treatment Chemicals

Recommended Action -

Motion to award and authorize Executive Director to execute Contracts for Purchase of Water Treatment Chemicals with the recommended lowest responsible and responsive bidders.

Water treatment chemicals were bid in accordance with the Authority's Procurement Policy and staff recommends award of contracts to the lowest responsible and responsive bidders as listed below. Contracts are for an initial term of one (1) year (May 1, 2023 through April 30, 2024) and are eligible for up to two (2) one-year extensions upon mutual consent of the parties.

Bid Item	Chemical	Recommended Bidder	Current Cost	New Cost
No. 1	12% Sodium Hypochlorite	Allied Universal Corp.	$0.878/lb.	$1.43/lb.
No. 2	Sodium Hydroxide 50% Solution	Univar Solutions	$789/dry ton	$885/dry ton
No. 3	Copper Sulfate	Brenntag Mid-South	$2.18/lb	$2.028/lb.
No. 4	Copper Sulfate Solution	TMB Water	No Bids	$10.75/gallon
No. 5	Powered Activated Carbon (PAC)	Jacobi Carbons, Inc.	$2960/ton	$3680/ton

(1) Performance testing data attached.

Budget Action: No action needed.

Attachments:
Tab A Notice of Award, Bid Tabulation, & Performance Testing Data
Tab B Sample Contract for Purchase of Water Treatment Chemicals

TAB A
Notice of Award, Bid Tabulation, & Performance Testing Data

NOTICE OF INTENDED DECISION FOR AWARD OF PURCHASE CONTRACT - PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY WATER TREATMENT CHEMICALS

Recommended Action - **Accept bids and award Contracts for Purchase of Water Treatment Chemicals to the recommended lowest, responsible, and responsive bidders.**

Water treatment chemicals were bid in accordance with the Authority's Procurement Policy. Bids were received and opened on March 6, 2023.

Staff recommends the Authority Board of Directors award purchase contracts to the lowest, responsible, and responsive bidders as listed below at the Authority Board meeting on April 5, 2023. Bid tabulation is attached.

Bid Item	Chemical	Recommended Bidder	New Cost
No. 1	12% Sodium Hypochlorite	Allied Universal Corp.	$1.43/lb.
No. 2	Sodium Hydroxide 50% Solution	Univar Solutions	$885/dry ton
No. 3	Copper Sulfate	Brenntag Mid-South	$2.028/lb.
No. 4	Copper Sulfate Solution	TMB Water	$10.75/gallon
No. 5	Powered Activated Carbon (PAC)	Jacobi Carbons, Inc.	$3,680/ton

Failure to file a protest within the time prescribed in section 120.57(3), Florida Statutes, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceeding under chapter 120, Florida Statutes.

Posted: March 17, 2023

Peace River Manasota Regional Water Supply Authority
Water Treatment Chemicals 2023
Bid Opening: March 6, 2023 @ 2:00 pm
9415 Town Center Parkway, Lakewood Ranch, FL 34202

Company Name	Item No. 1 12% Sodium Hypochlorite ($/gal) Total Bid Amount:	Item No. 2 50% Sodium Hydroxide Solution ($/dry ton) Total Bid Amount:	Item No. 3 Copper Sulfate ($/lb.) Total Bid Amount:	Item No. 4 Copper Sulfate Solution ($/gal) Total Bid Amount:	Item No. 5 Powdered Activated Carbon ($/ton) Total Bid Amount:
USALCO, LLC - NO BID					
Allied Universal Corporation	1.43	1,163.98			
Jacobi Carbons					3,680.00
TMB Water			2.25	10.25	
Thatcher Chemicals of Florida			2.25		
Carbon Activated Corporation					2,580.00
Donau Carbon US					1,980.00
Odyssey Manufacturing	1.69	1,300.00			
Univar Solutions		885.00			
Earth Science Labs				12.75	
CarbPure Technologies					2,660.00 T 4800.00 TRA
Brenntag Mid-South		894.00	2.028	14.99	
Chemical Systems of Orlando			2.347		
Calgon Carbon Corporation					2,880.00

Bids Opened By: Rachel Kersten, Agency Clerk — Rachel Kersten
Name & Title **Signature**

Witnessed By: Richard Anderson, Director of Operations — [signature]
Name & Title **Signature**

Peace River Facility Chemical Bids
Carbon Testing Performance Factors
March 2023

Carbon Name	SAMPLE CODE *(see note a)*	PAC Dose *(see note b)* (mg/l)	Bid cost per ton ($)	Performance Factor *(see note c)*	Effective Cost ($)	Rank *(see note d)*	Sieve Test (%<400)	MSDS Minimum Iodine	Iodine Lab Test
Carbon Activated Corp.	A	47.05	$2,580	1.73	$4,455	2	90 (325)	800	
Jacobi	B	27.25	$3,680	1.00	$3,680	1	99 (325)	950	956
Carb Pure T RA	C	41.95	$4,800	1.54	$7,389	6	100 (325)	800	906
Donau Carbon Water Carb 800	D	69.9	$1,980	2.57	$5,079	4	90 (325)	800	
Calgon WPH1000	E	48	$2,880	1.76	$5,073	3	97 (325)	1000	1180
Carb Pure T	F	65.6	$2,660	2.41	$6,404	5	93 (325)	800	1114

Notes

a) Samples were sent as blind samples to the lab, only the Authority was aware of their true identities.

b) Samples analyzed by Engineering Performance Solutions, Inc. of Jacksonville, Florida in a matrix of raw Peace River water spiked with synthetic organic taste and odor compounds. Dose indicated was the dose required to reduce the taste and odor compounds to target levels in an established timeframe.

c) Performance factor is established to be 1.0 for the lowest dose that achieved the desired performance metric. This is the baseline dose for comparison and becomes the denominator in the quotient that then defines every other sample identified as: Performance Factor X = (Dose X)/(Baseline Dose)

d) *Indicates - Failed to achieve 70% removal at 70 mg\L dose rate.

TAB B
Sample Contract for Purchase of Water Treatment Chemicals

CONTRACT FOR PURCHASE OF GOODS
WATER TREATMENT CHEMICALS

This Contract for Purchase of Goods, Water Treatment Chemicals, hereinafter referred to as the "Contract" is made and entered into on _____, 2023, between PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY, 9415 Town Center Parkway, Lakewood Ranch, Florida 34202, hereinafter referred to as "Authority" and_____ hereinafter referred to as "Seller."

WHEREAS the Authority desires to engage the Seller to provide water treatment chemicals for the Peace River Regional Water Supply Facility, hereinafter referred to as the "Peace River Facility" on an as-needed basis for a fixed price; and

WHEREAS the Seller desires to supply water treatment chemicals as described herein, and has the experience, personnel, and resources to provide these chemicals in a timely manner.

NOW, THEREFORE, in consideration of the mutual covenants and agreements hereinafter contained, the parties agree as follows:

ARTICLE 1. INTEGRATED AGREEMENT

The terms of this Contract are intended by the parties as a final expression of their agreement with respect to its terms and as a complete and exclusive statement of its terms. The recitations are incorporated herein by reference.

ARTICLE 2. DESCRIPTION OF GOODS

The Seller undertakes to transfer ownership, sell, and deliver possession to the Authority, and the Authority shall pay for, buy and accept the following water treatment chemicals:

_____
_____
_____

These chemicals are to be furnished FOB destination price for the delivery and unloading of water treatment chemicals at the Peace River Facility, as set forth in the Bid Documents and hereinafter referred to as the "goods" or "chemicals."

ARTICLE 3. TIME AND PLACE OF DELIVERY

Delivery of the goods shall occur within five (5) business days of being requested by the Authority. The goods shall be delivered to and unloaded at the Peace River Facility, 8998 SW County Road 769, Arcadia, Florida 34269 ("place of delivery"). Time is of the essence and the Seller shall be held strictly to the delivery date from the receipt of the purchase order. Chemicals not delivered by the date specified shall justify the Authority's option to terminate the contract. All deliveries shall be made between the hours of 8:00 A.M. and 3:00 P.M. EST, Monday through Friday, excluding holidays, unless otherwise agreed to by the Authority.

Seller confirms that its equipment is compatible with the Authority's unloading and storage facilities at no inconvenience to the Authority. Certified weight or volume (as applicable to unit costs) tickets are required with each delivery. The Seller shall provide a separate delivery ticket for each delivery and shall obtain an authorized signature from the Authority. At least one (1) copy of the delivery ticket and corresponding weight or volume (as applicable to unit costs) ticket shall be provided to the Authority with each delivery. Seller shall also comply with all requirements of the Safety Measures attached hereto as **Exhibit E**.

ARTICLE 4. PRICE

The unit prices, FOB destination quoted by the Seller in its Bid Form, and attached as Exhibit A, shall be considered firm throughout the term of the Contract. The prices quoted shall be used for payment and shall include payment in full for all transportation, labor, equipment, taxes and other costs used in delivering all goods to the point of delivery and the unloading of such goods. There shall be no cost adjustments. Storage tanks, where required, for goods offered under this Contract shall be furnished by the Seller at the Authority's option on loan, and at no cost to the Authority. Estimated quantities are not guaranteed. The Authority is not obligated to make any minimum quantity purchases from the Seller during the Contract term.

ARTICLE 5. CANCELLATION

Failure by the Seller to comply with terms of this Contract shall be deemed a breach of contract claim against Seller and shall, at the Authority's sole and absolute discretion, result in the cancellation of this Contract in accordance with ARTICLE 19. TERMINATION.

ARTICLE 6. COMPENSATION

The Authority will assign a blanket purchase order number for the anticipated deliveries for the term. Seller shall provide separate invoices for each delivery, showing the purchase order number. The Seller shall prepare and submit to the Authority invoices for goods delivered. The Executive Director, or the Executive Director's designee, will approve payment after verifying delivery is in compliance with all requirements of this Contract. The Authority will make payment in accordance with the Part VII of Chapter 218, Florida Statutes, the Florida Prompt Payment Act. The Authority may, in addition to other remedies available at law or equity, retain such monies from amounts due Seller as may be necessary to satisfy any claim for damages, penalties, costs, and the like asserted by or against the Authority. The Authority may set off any liability or other obligation of the Seller to the Authority against any payments due the Seller under this Contract.

ARTICLE 7. SELLER'S ASSIGNMENT OF PAYMENT

The Seller may not assign the right to receive payment from the Authority.

ARTICLE 8. EXPRESS WARRANTY

In addition to any implied warranties of the Uniform Commercial Code, the Seller warrants to the Authority that the goods being sold under this Contract shall strictly meet the specifications in **Exhibit D**.

ARTICLE 9. RIGHT OF INSPECTION

The Authority has the right to inspect the goods at the time and place of delivery, before payment or acceptance.

ARTICLE 10. ALLOCATION OF RISK OF LOSS

Any risk or loss associated with the goods remains with the Seller until the time of acceptance of the goods by the Authority at the place of delivery.

ARTICLE 11. REJECTION OF NONCONFORMING GOODS

Rejection of goods for failure to conform to the requirements of this Contract must be made within thirty (30) days after their delivery and inspection. The Authority shall send written notification of the rejection to the Seller. The notice must state the basis of the alleged nonconformity of the goods and describe the portion of the shipment being rejected. On receipt of notification of rejection, the Seller shall immediately arrange for the return shipment of the goods at the Seller's expense. The Seller shall ship replacement conforming goods, at no additional cost to the Authority, within ten (10) business days of the notice of rejection unless the Authority notifies the Seller to forgo the shipment before that date.

ARTICLE 12. ADDITIONAL REMEDIES OF THE AUTHORITY

In addition to any of the remedies provided under the Uniform Commercial Code, if the Seller is unable to provide services because of breakdown, product scheduling, lack of product or equipment, then the Authority may, on an order basis, go to another supplier. The Seller recognizes that this Contract is not an exclusive contract to purchase chemicals.

ARTICLE 13. EXCLUSIVE REMEDIES OF THE SELLER

The exclusive remedies of the Seller under this Contract are to have any goods not paid for returned to the Seller, or to receive, on demand, the purchase price for any goods not paid for in accordance with the terms of this Contract and not returned within sixty (60) days of the demand.

ARTICLE 14. WAIVER

No claim or right arising out of a breach of this Contract can be discharged by the Authority in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration, is in writing, and is signed by the Executive Director or appointed designee.

ARTICLE 15. SELLER'S DELEGATION

The Seller may not delegate its performance in the delivery of goods under this Contract without the prior written consent of the Authority. Written consent shall be in Authority’s sole discretion, and if granted, shall be given once the Authority has received satisfactory assurances that the quality of goods being substituted shall be equivalent to that of the contract goods, that all terms of the Contract Documents are complied with, and that the delegation shall not otherwise adversely affect the Authority's rights and obligations with regard to other sellers.

ARTICLE 16. SELLER'S INSURANCE REQUIREMENTS

A. The Seller must maintain during the term of this Contract, insurance with a company or companies authorized to do business in the State of Florida in the following kinds and amounts.

B. The amounts and types of insurance shall be appropriate for the services being performed by the Seller, its employees, or agents and must conform to the following minimum requirements:

1. Workers Compensation. Coverage must apply for all employees and statutory limits in compliance with the applicable state and federal laws. In addition, the policy must include the following:

a. Employer's Liability with a minimum limit per accident in accordance with statutory requirements.

b. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.

2. Commercial or Comprehensive General Liability. Coverage must include:

a. $1,000,000.00 combined limit per occurrence for bodily injury, personal injury, and property damage.

b. Contractual coverage applicable to this specific contract, including any hold harmless and/or indemnification agreement, broad form property damage, explosion, collapse, and underground hazard coverage and independent Seller's coverage.

c. Additional Insured. Authority is to be specifically included as an additional insured.

d. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.

3. Comprehensive Automobile Liability. Coverage must be afforded on a form no more restricted than the latest edition of the Comprehensive Automobile Liability Policy filed by the Insurance Services Office and must include:

a. $1,000,000.00 combined single limit per accident for bodily injury and property damage.

b. Owned Vehicle.

c. Hired and Non-Owned Vehicles.

d. Employee Non-Ownership.

e. Additional Insured. Authority is to be specifically included as additional insured.

f. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.

C. Seller must deliver to the Authority Certificates of Insurance evidencing the insurance coverage specified in this ARTICLE 16 prior to execution of this Contract. The required Certificates of Insurance not only shall name types of policies provided but also shall refer specifically to the Contract.

D. Insurance coverage shall be placed with insurers or self-insurance funds, satisfactory to the Authority, licensed to do business in the State of Florida and with a resident agent designated for the service of process. Seller shall provide the Authority with financial information concerning any self-insurance fund insuring Seller. At the Authority's option, Self-Insurance Fund financial information may be waived.

E. All the policies of insurance so required of Seller, except workers compensation, shall be endorsed to include as additional insureds: The Authority, its directors, officers, employees, and agents. Such insurance policies shall include or be endorsed to include a cross liability clause so the additional insureds will be treated as if a separate policy were in existence and issued to them. If the additional insureds have other insurance, which might be applicable to any loss, the insurance required of Seller shall be considered primary, and all other insurance shall be considered excess. The cross-liability clause does not increase the limits of liability or aggregate limits of the policy.

F. Deductible and self-insured retention amounts shall be subject to approval by the Authority, which approval shall not be unreasonably withheld. Seller is responsible for the amount of any deductibles or self-insured retentions.

G. Approval of the insurance by the Authority shall not relieve or decrease the liability of Seller hereunder. Seller acknowledges and agrees the Authority does not in any way represent the insurance (or the limits of insurance) specified in this ARTICLE 16 is sufficient or adequate to protect Seller's interests or liabilities but are merely minimums.

H. All of the policies of insurance required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed, or renewal refused, until at least thirty (30) days prior written notice has been given to the Authority and Seller by certified mail. Seller shall give notice to the Authority within twenty-four (24) hours of any oral or written notice of adverse change, non-renewal, or cancellation. If the initial insurance expires prior to completion of the work, renewal Certificates of Insurance shall be furnished thirty (30) days prior to the date of their expiration.

I. All insurance required hereunder shall remain in full force and effect until final payment and at all times thereafter when Seller may be observing the correction, removal, or replacement of defective work.

J. Seller shall, upon request by the Authority, deliver to the Authority a copy of each insurance policy purchased by Seller.

K. All policies, except for workers' compensation, shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of subrogation against the Authority, its Sellers, directors, officers, employees, representatives, or agents. Nothing contained in these insurance requirements is to be construed as limiting the liability of Seller or Seller's insurance carriers.

L. The commercial (occurrence form) or comprehensive general liability (occurrence form) insurance shall include contractual liability insurance applicable to all of the Seller's obligations under the Contract, including any indemnity or hold harmless provision.

M. Seller shall require each of its subcontractors, suppliers, and other persons or organizations working for Seller to procure and maintain, until the completion of that party's work or services, insurance of the types and in the coverage amounts required to be carried by Seller in the Contract unless the Authority agrees, in writing, to other types of coverage and/or lower coverage amounts. Seller shall be responsible for ensuring all of its subcontractors, suppliers, and other persons or organizations working for Seller in connection with the Project comply with all of the insurance requirements contained herein relative to each such party. The Seller must obtain certificates of insurance from any subcontractor otherwise the Seller must provide evidence satisfactory to the Authority

that coverage is afforded to the subcontractor or by the Seller's insurance policies.

ARTICLE 17. CONTRACT TERM

Term of this contract is for **one (1) year** commencing on May 1, 2023 through April 30, 2024. All contracts may be extended for two (2) one (1) year periods upon mutual written agreement of both parties. Written agreement for each contract extension shall be approved no later than January 15 for the ensuing contract year. All Contract terms, including ARTICLE 4. PRICE, shall remain the same through the term of any extension, except that a new blanket purchase order will be issued under ARTICLE 6. COMPENSATION.

ARTICLE 18. CONTRACT DOCUMENTS

The following Contract Documents are attached and are part of this Contract:

- This Contract;
- Bid Form submitted by Seller in accordance with the Instruction to Bidders, including an executed Public Entity Crimes Statement and E-Verify Affidavit, attached as **Exhibit A**;
- Invitation to Bid, attached as **Exhibit B**;
- Instruction to Bidders, attached as **Exhibit C**;
- Technical Specifications, including the Minimum Specifications for Water Treatment Chemicals, attached as **Exhibit D**;
- Safety Measures, attached as **Exhibit E**;
- Any addenda to the Bid Documents, if applicable, attached as **Exhibit F**; and
- Any written amendments or modification to this Contract.

ARTICLE 19. TERMINATION

This Contract may be terminated by the Authority, with or without cause, upon seven (7) days written notice. In the event the Contract is terminated by Authority or upon expiration, the duties and obligations of Seller under the following provisions shall survive termination or upon expiration, and continue in full force and effect:

1. ARTICLE 10. ALLOCATION OF RISK OF LOSS;
2. ARTICLE 12. ADDITIONAL REMEDIES OF THE AUTHORITY;
3. ARTICLE 13. EXCLUSIVE REMEDIES OF THE SELLER;
4. ARTICLE 19. TERMINATION;
5. ARTICLE 20. GOVERNING LAW;

6. ARTICLE 24. INDEMNIFICATION; and

7. ARTICLE 32. DISPUTES.

ARTICLE 20. GOVERNING LAW AND VENUE

This Contract shall be governed by the laws of the state of Florida and construed in accordance with the Uniform Commercial Code - Sales. Wherever the term “Uniform Commercial Code" is used, it shall be construed as meaning the Uniform Commercial Code as adopted in the State of Florida, as effective and in force on the date of this Contract. The venue of any litigation resulting out of this Contract shall be in the county or circuit court, whichever is applicable, in and for Manatee County, Florida.

ARTICLE 21. PARTIES BOUND

This Contract shall be binding on and inure to the benefit of its parties and their partners, successors, assigns, and legal representatives when permitted by this Contract.

ARTICLE 22. NON-EXCLUSIVITY

This is not an exclusive contract. The Authority has the right to contract with other suppliers for the purchase of water treatment chemicals described in **Exhibit B** from one or more suppliers.

ARTICLE 23. MODIFICATION

This Contract may be modified only in writing and signed by both parties or their duly authorized agents.

ARTICLE 24. INDEMNIFICATION

The Seller shall indemnify and save the Authority, its agents, servants, and employees harmless from and against any claim, costs, including its attorney's fees, or cause of action of whatsoever kind or nature caused by negligent or willful error, omission, or act of the Seller, its agents, servants, or employees in the performance of this Contract.

ARTICLE 25. INDEPENDENT CONTRACTOR

The Seller expressly warrants that it will not represent at any time or in any manner that the Seller or any of its agents, servants, or employees are agents, servants, or employees of the Authority. It is understood and agreed that the Seller is, and shall at all times remain as to the Authority, a wholly independent contractor and that the Seller's obligations to the Authority are solely as prescribed by this Contract. It shall be the responsibility of the Seller to assure compliance with local, state, or federal laws and regulations or other requirements as each may apply to the sale, delivery, and goods purchased pursuant to this Contract.

ARTICLE 26. SEVERABILITY

In the event any one or more of the provisions contained in this Contract shall for any reason be held invalid, illegal, or unenforceable in any respect, the invalidity, illegality, or unenforceability shall not affect any other provision and this Contract shall be construed as if the invalid, illegal, or unenforceable provision had never been contained in it.

ARTICLE 27. SCRUTINIZED COMPANIES

Contractor is in compliance with Section 287.135, Florida Statutes. As required by subsection 287.135(5), Florida Statutes, Contractor certifies that it is not on any of the following lists: 1) Scrutinized Companies with Activities in Sudan, 2) Scrutinized Companies with Activities in the Iran Petroleum Energy Sector, or 3) Scrutinized Companies that Boycott Israel.

ARTICLE 28. PUBLIC ENTITY CRIMES

Seller is in compliance with Section 287.132, Florida Statutes. The Public Entity Crimes statement required by Subsections 287.133(2) and (3), Florida Statutes provided with Seller's response to the RFP is true and accurate on the effective date of this Contract. Seller will notify the Authority if placement on either the suspended or convicted vendor list occurs.

ARTICLE 29. PROHIBITION AGAINST CONTINGENCY FEES

As required by Section 287.055(6), Florida Statutes, Seller warrants that he or she has not employed or retained any company or person, other than a bona fide employee working solely for the architect (or registered surveyor and mapper, or professional engineer, as applicable) to solicit or secure this agreement and that he or she has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the architect (or registered surveyor and mapper or professional engineer, as applicable) any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this agreement. If Seller breaches or violates this provision, the Authority has the right to terminate this Contract without liability and, at its discretion, to deduct from Seller's compensation, or otherwise recover, the full amount of such fee, commission, percentage, gift, or consideration.

ARTICLE 30. REPRESENTATIVES/NOTICE

Any notices or other writings permitted or required to be delivered under the provisions of the Contract must be in writing and shall be delivered by sending the notice by personal delivery, U.S. regular mail, U.S. express mail or by U.S. certified mail, return receipt requested, in any event with sufficient postage affixed, and addressed as follows:

If to the Authority: Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, Florida 34202
Attention: Mike Coates, Executive Director

If to the Seller: _____
_____
_____
_____

Either party may change said address by notice in writing to the other party in the manner

herein provided.

ARTICLE 31. DOCUMENTS AND DATA

The Authority and the Seller shall comply with the provisions of Chapter 119, Florida Statutes (Public Records Law). Each party shall allow public access to documents and materials made or received by either party in accordance with the Public Records Act, Chapter 119, Florida Statutes. The Seller shall (1) keep and maintain public records that ordinarily and necessarily would be required by the Authority in order to perform the service; (2) provide the public with access to public records on the same terms and conditions that the Authority would provide the records and at a cost that does not exceed the cost provided by law; (3) ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and (4) meet all requirements for retaining public records and transfer, at no cost to the Authority, all public records in possession of the Seller upon termination of this Contract and destroy any duplicate public records that are exempt or confidential and exempt from public records requirements. All records stored electronically must be provided to the Authority in a format that is compatible with the information technology systems of the Authority. **IF THE SELLER HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE SELLER'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (941) 316-1776; ALEE@REGIONALWATER.ORG; OR 9415 TOWN CENTER PARKWAY, LAKEWOOD RANCH, FLORIDA 34202.**

ARTICLE 32. DISPUTE RESOLUTION

In the event any dispute or disagreement arises during the course of the Contract, the Seller shall fully perform in accordance with the Contract. The Seller shall seek clarification and resolution of any issue, discrepancy, or dispute by submitting a formal request to the Authority's Executive Director, or appointed designee no later than ten (10) days after the precipitating event. The parties will use their best efforts to resolve amicably any dispute, including use of alternative dispute resolution options. No goods shall be delayed or postponed pending resolution of any disputes or disagreements.

ARTICLE 33. E-VERIFY

Seller warrants compliance with all federal immigration laws and regulations that relate to their employees. Seller is in compliance with Section 488.095, Florida Statutes. As required by Subsection 488.095(2)(a), Florida Statutes, Seller has registered with and uses the E-Verify System to verify the work authorization status of all newly hired employees. The E-Verify Statement Seller submitted with its response to the RFP remains true and correct. Seller shall be liable for any additional costs incurred by the Authority as a result of the termination of this Contract based on the failure of Seller or its subcontractors to comply with the E-Verify requirements referenced herein.

IN WITNESS WHEREOF, the parties hereto have executed this Contract as of the date and year first written above.

Peace River Manasota
Regional Water Supply Authority

ATTEST:

BY: _____

_____
Mike Coates, Executive Director

WITNESS

SELLER:

BY: _____

_____

_____

_____
Print Name & Title

Print Name & Title

APPROVED AS TO FORM:

_____
Douglas Manson, General Counsel
Peace River Manasota
Regional Water Supply Authority

EXHIBIT A
(Bid Form submitted by Seller in accordance with the Instruction to Bidders, including executed Public Entity Crimes Statement and E-Verify Registration Proof & Affidavit)

EXHIBIT B
(Invitation to Bid)

EXHIBIT C
(Instruction to Bidders)

EXHIBIT D
(Technical Specifications, including the Minimum Specifications for Water Treatment Chemicals)

EXHIBIT E
(Safety Measures)

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

CONSENT AGENDA
ITEM 5

Repairs to Hurricane Damaged Roofs at the Peace River Facility

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Recommended Action - **Motion** to authorize Executive Director to issue work orders to Sutter Roofing for emergency roof repairs and replacement at the Peace River Facility a not-to-exceed amount of $654,034.

On September 28, 2023, Hurricane Ian hit the west coast of Florida and left a huge swath of damage in its wake. While Authority facilities continued to operate and deliver water, roofs on multiple buildings at the Authority's Peace River Water Treatment Facility sustained damage that allowed water intrusion into the buildings.

While the Authority has a library of as-needed contractors, none of them are roofing contractors and repairs had to be made as soon as possible to avoid further water damage to structures. Because time was of the essence, the Authority contacted Sutter Roofing, the contractor who installed the original roof on the Water Quality Training Facility in 2015. Sutter Roofing was able to inspect roofs on all buildings at the Peace River Facility and expeditiously complete emergency (temporary) repairs. As part of the inspection process, all building roofs were given a grade relating to existing condition and remaining service years. Cost estimates were provided for repair/replacement depending on the grade received. In total, 21 roof systems were inspected of which 13 were identified as needing permanent corrective action. Six (6) building roofs require repairs, while seven (7) were recommended for replacement due to current condition and remaining service life. A listing of the buildings that require corrective action, the costs of roof repair/replacement at each building, and an associated building map is attached.

Staff recommends continuing emergency repairs with Sutter Roofing in an effort to complete all necessary work before the start of rainy season. The estimated total cost for repairs/replacement on 13 building roofs at the Peace River Facility is $654,034 which includes a 10% contingency for unforeseen conditions. Board authorization in an amount not to exceed $654,034 is requested. Funds for this work are available from the Authority's Disaster Recovery Reserve.

Budget Action: No-action needed at this time.

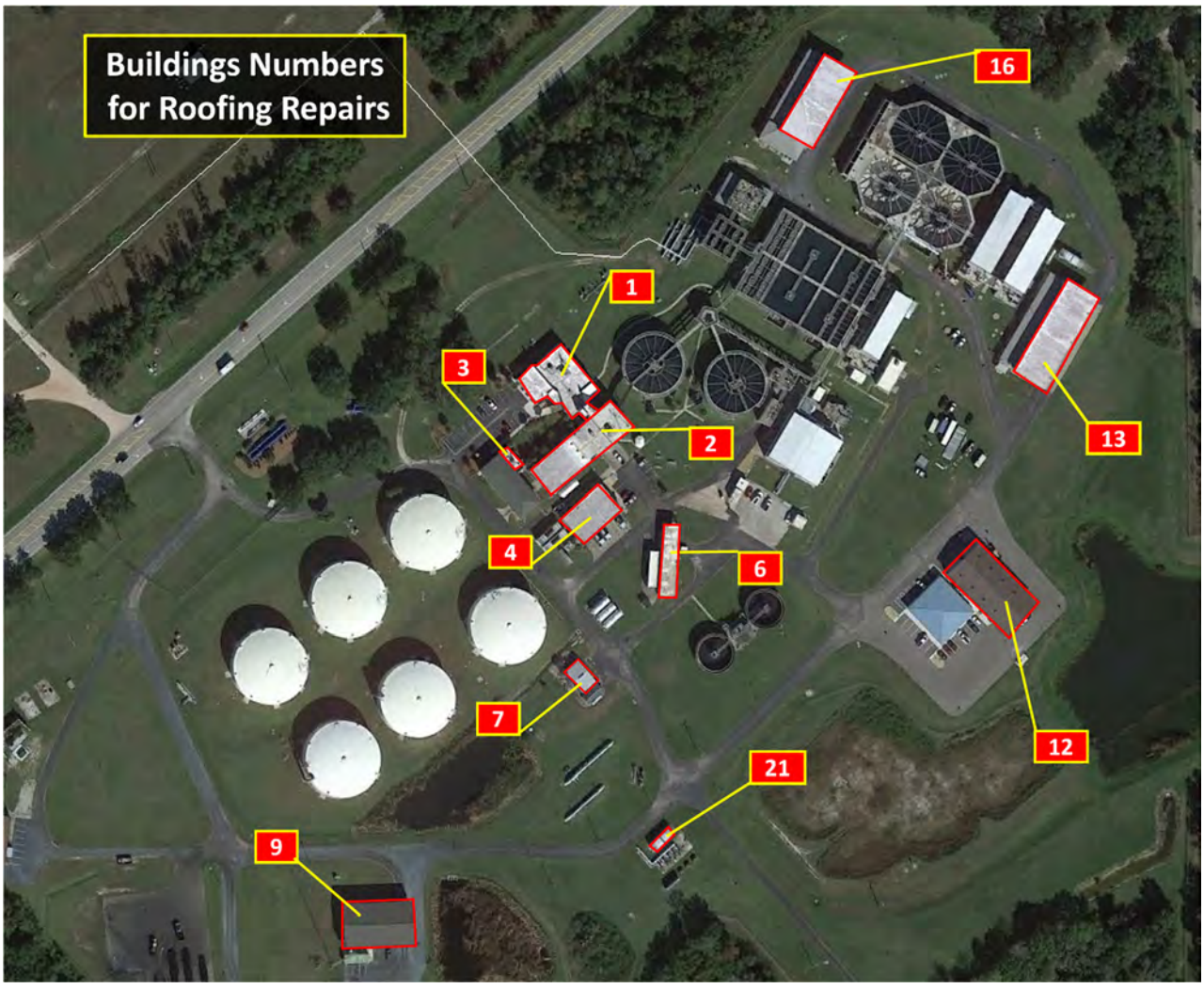
Attachments

Tab A Damaged Roof Summary & Corresponding Building Map
Tab B Sutter Roofing Repair and Replacement Estimates

TAB A
Damaged Roof Summary & Corresponding Building Map

Damaged Roof Summary & Corresponding Building Map

Bldg #	Building Description	Grade	Cost to Repair	Cost to Replace	Total with 10% Contingency
1	Water Quality Training Facility	B	$3,075		$3,383
2	HS 60 and 2nd Floor Opera. ons	D		$130,078	$143,086
3	HS 62 Mechanical Building	B	$625		$688
4	Generator Building	D		$76,524	$84,176
6	Maintenance Project Shop	A	$12,800		$14,080
7	Old Maintenance Parts	A	$4,495		$4,945
9	Sludge Press Building	A	$2,950		$3,245
12	New Maintenance Warehouse	A	$2,150		$2,365
13	East Chemical Building	F		$113,653	$125,018
16	West Chemical Building	D		$113,653	$125,018
17	Reservoir Pump Station	F		$71,773	$78,950
20	DeSoto Booster Station	F		$42,140	$46,354
21	Recycle Water Building	D		$20,660	$22,726
Total	**13 Buildings**		**$26,095**	**$568,481**	**$654,034**



TAB B
Sutter Roofing Repair and Replacement Estimates

Sutter Roofing Co - Sutter Roofing Fort Myers
6201 Topaz Ct Unit #2 Fort Myers, FL 33966
Peace River Water Supply Authority
9415 TOWN CENTER PARKWAY
LAKEWOOD RANCH, FL 34202

PROPERTY:
Peace River Manasota
8998 SW COUNTY ROAD 769
ARCADIA, FL



Building #1 REPAIR

1 - Section 1 (3,659 Sq Ft) Grade B

Deficiency	Qty	Budget	Recommended
Punctures - Rips - Tears	1 EA	$0.0	$0.00
Punctures - Rips - Tears	1 EA	$0.0	$0.00
Punctures - Rips - Tears	[illegible]	$0.0	$0.00
Punctures - Rips - Tears	1 EA	$0.0	$0.00
Punctures - Rips - Tears	[illegible]	$0.0	$750.00
Fasteners Failing/Missing	[illegible]	$0.0	$125.00
Counterflashing Caulk Failure	[illegible]	$0.0	$225.00
Coping - Damaged	[illegible] LF	$0.0	$0.00
Coping - Damaged	14 LF	$0.0	$0.00
Coping - Damaged	24 LF	$0.0	$1,975.00
Total		$0.00	$3,075.00

Building #3 REPAIR

3 - Section 3 Mechanical Building (244 Sq Ft) Grade B

Deficiency	Qty	Budget	Recommended
Punctures - Rips - Tears	[illegible]	$0.0	$0.00
Punctures - Rips - Tears	[illegible]	$0.0	$0.00
Punctures - Rips - Tears	[illegible]	$0.0	$0.00
Scope of Work	1 EA	$0.0	$625.00
Total		$0.00	$625.00

Building #6 REPAIR

6 - Section 6 (3,668 Sq Ft) Grade A

Deficiency	Qty	Budget	Recommended
Scope of Work	20 LF	$0.0	$2,125.00
Scope of Work	120 LF	$0.0	$10,675.00
Total		$0.00	$12,800.00

Building #7 REPAIR

7 - Section 7 (799 Sq Ft) Grade A

Deficiency	Budget	Recommended
Scope of Work	$0.0	$4,495.00
Total	$0.00	$4,495.00

Building #9 REPAIR

9 - Section 9 (6,078 Sq Ft) Grade A

Deficiency	Qty	Budget	Recommended
Downspouts - Missing	14 LF	$0.0	$0.00
Downspouts - Missing	14 LF	$0.0	$0.00
Downspouts - Missing	42 LF	$0.0	$2,950.00
Total		$0.00	$2,950.00

Building #12 REPAIR

12 - Section 12 (8,124 Sq Ft) Grade A

Deficiency	Qty	udget	Recommended
Metal Edge - Missing	20 LF	$0.0	$2,150.00
Total		$0.00	$2,150.00

FLORIDA ROOFING AND SHEET METAL CONTRACTORS ASSOCIATION

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8284 VICO CT
SARASOTA, FLORIDA 34240
PHONE: (941) 377-1000
FAX: (941) 377-4499

8811 MAISLIN DRIVE
TAMPA, FLORIDA 33637
PHONE: (813) 868-0800
FAX: (813) 868-0500

2661 OLD WINTER GARDEN RD
ORLANDO, FLORIDA 32805
PHONE: (407) 367-4500
FAX: (407) 367-4519

Date: Monday, January 23, 2023

Sutter Roofing Company of Florida (hereinafter referred to as "Contractor" or "Sutter") issues this New Construction Single-Ply Proposal ("Proposal") to perform, furnish, and provide the labor, materials, supervision, equipment, and any applicable warranties (herein together referred to as the "Work") described as follows:

Proposal Number: *257892*

Client: **Peace River** ***Manasota Regional Water Supply Authority***
8998 SW County Rd 769
Arcadia, FL 34269

Attention: ***Scott Cunningham***
scunningham@regionalwater.org
239-297-2472

Project: ***Admin Office Coated Roof***

Building #2 REPLACEMENT

A: SCOPE OF WORK:
Approximate Square Footage: 6,000 sf Roof Area

1. Properly set up jobsite for safety provisions on ground and roof.
2. Tear off existing roofing down to lightweight concrete deck.
3. Furnish and mechanically attach a plate bonded 60 mil TPO roof system through lightweight concrete into existing metal deck in accordance with manufacturer's specifications and warranty requirements.
4. Roof systems to be installed in accordance with applicable Florida Product Approval #FL15894-R20
5. Flash all roof curbs with new TPO flashing membrane in accordance with manufacturer's specifications and warranty requirements.
6. Flash (6) roof drains with new TPO flashing membrane in accordance with manufacturer's specifications and warranty requirements
7. Flash all vent pipes with pre-manufactured TPO pipe boots in accordance with manufacturer's specifications and warranty requirements
8. Field wrap pipe penetrations with new TPO flashing membrane in accordance with manufacturer's specifications and warranty requirements

9. Furnish and install new walkpad in existing locations in accordance with manufacturer's specifications and warranty requirements
10. Furnish and install new coping and counterflashing shop fabricated from new 24 GA Kynar coated steel and 032 Aluminum with a standard Kynar 500 color and finish. All sheet metal work to fabricated and installed per Florida Building Code ANSI/SPRI ES-1 requirements.
11. Remove all roof debris from jobsite.
12. Furnish a Contractor 2-year workmanship warranty upon final payment for the Work.
13. Furnish a manufacturer's 20-year Warranty upon final payment for the Work.
14. Furnish a manufacturer's 20-year Finish only Warranty upon final payment for the work.

NOTES / INCLUSIONS / EXCLUSIONS:

NOTES:

- Plans Dated: N/A
- Addendums: N/A Date: N/A

- Quote expires 30 days after date of proposal.
- Sutter Roofing standard work week is four (4), ten (10) hour days. Please utilize this information for schedule creation.
- **PLEASE NOTE PRICE ESCALATION CLAUSE #2 IN TERMS AND CONDITIONS BELOW**

INCLUSIONS:

- Includes all applicable taxes, fees and permits.
- Includes ___1___ mobilizations. Additional mobilizations shall be charged at $2500.00 per occurrence.
- All hoisting of materials and equipment to roof for our scope of work, unless this is high rise work and by GC
- Complete submittals and relevant shop drawings
- VISUAL inspection of the deck as suitable to attach roofing materials.

EXCLUDES:

- Any items not specifically listed in our scope above. Specifically lighting protection and components, vertical or cavity insulation, non-roof related sheet metal fabrication and installation including: soffits, sill flashing, specialty break metals and/or prefabricated curbs are excluded from this this proposal.
- Roofing Permit – Sutter to be listed subcontractor on GC Master Permit
- Bid or P & P Bonds unless included in above scope and pricing.
- Site specific engineering or stamped drawings
- Protection of "in-progress" or "completed" roof assembles
- Final cleaning of finished roof surface.
- Premium or Overtime work unless specifically included above.
- Interior protection or cleaning (unless caused by Sutter)
- Composite clean up crew or worker(s). Sutter Roofing will keep our area on the roof clean daily and does not contribute to interior trash or debris.
- Sutter Roofing WILL NOT complete inspection of structural decking assembly for adequate attachment to substructure, structural load capabilities, relative humidity, moisture content, bracing around roof openings, etc.

B. Contractor Price

One Hundred Thirty Thousand and Seventy-Eight Dollars	$130,078

Payment Options: **All payments shall be satisfied by check or other secured note. Should Customer/Owner elect to remit payment via credit card or debit card, a 3% charge shall be applied for the associated service charges, fees, and other costs handed down by the credit/bank card provider.**

FLORIDA ROOFING AND SHEET METAL CONTRACTORS ASSOCIATION

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FAX: (941) 377-4499

8811 MAISLIN DRIVE
TAMPA, FLORIDA 33637
PHONE: (813) 868-0800
FAX: (813) 868-0500

2661 OLD WINTER GARDEN RD
ORLANDO, FLORIDA 32805
PHONE: (407) 367-4500
FAX: (407) 367-4519

Date: Tuesday, February 28, 2023

Sutter Roofing Company of Florida (hereinafter referred to as "Contractor" or "Sutter") issues this New Construction Single-Ply Proposal ("Proposal") to perform, furnish, and provide the labor, materials, supervision, equipment, and any applicable warranties (herein together referred to as the "Work") described as follows:

Proposal Number: *257892*

Client: **Peace River** ***Manasota Regional Water Supply Authority***
8998 SW County Rd 769
Arcadia, FL 34269

Attention: ***Scott Cunningham***
scunningham@regionalwater.org
239-297-2472

Project: ***Generator Building***

Building #4 REPLACEMENT

A: SCOPE OF WORK:

Approximate Square Footage: 3,700 sf Roof Area

1. Properly set up jobsite for safety provisions on ground and roof.
2. Tear off existing roofing down to lightweight concrete deck.
3. Furnish and mechanically attach a plate bonded 60 mil TPO roof system through lightweight concrete into existing metal deck in accordance with manufacturer's specifications and warranty requirements.
4. Roof systems to be installed in accordance with applicable Florida Product Approval #FL15894-R20
5. Flash (6) roof drains with new TPO flashing membrane in accordance with manufacturer's specifications and warranty requirements
6. Flash all vent pipes with pre-manufactured TPO pipe boots in accordance with manufacturer's specifications and warranty requirements
7. Field wrap pipe penetrations with new TPO flashing membrane in accordance with manufacturer's specifications and warranty requirements
8. Furnish and install new coping and counterflashing shop fabricated from new 24 GA Kynar coated steel and 032 Aluminum with a standard Kynar 500 color and finish. All sheet metal work to fabricated and installed per Florida Building Code ANSI/SPRI ES-1 requirements.
9. Remove all roof debris from jobsite.

10. Furnish a Contractor 2-year workmanship warranty upon final payment for the Work.
11. Furnish a manufacturer's 20-year Warranty upon final payment for the Work.
12. Furnish a manufacturer's 20-year Finish only Warranty upon final payment for the work.

NOTES / INCLUSIONS / EXCLUSIONS:

NOTES:

- Plans Dated: N/A
- Addendums: N/A Date: N/A

- Quote expires 30 days after date of proposal.
- Sutter Roofing standard work week is four (4), ten (10) hour days. Please utilize this information for schedule creation.
- **PLEASE NOTE PRICE ESCALATION CLAUSE #2 IN TERMS AND CONDITIONS BELOW**

INCLUSIONS:

- Includes all applicable taxes, fees and permits.
- Includes ___1___ mobilizations. Additional mobilizations shall be charged at $2500.00 per occurrence.
- All hoisting of materials and equipment to roof for our scope of work, unless this is high rise work and by GC
- Complete submittals and relevant shop drawings
- VISUAL inspection of the deck as suitable to attach roofing materials.

EXCLUDES:

- Any items not specifically listed in our scope above. Specifically lighting protection and components, vertical or cavity insulation, non-roof related sheet metal fabrication and installation including: soffits, sill flashing, specialty break metals and/or prefabricated curbs are excluded from this this proposal.
- Roofing Permit – Sutter to be listed subcontractor on GC Master Permit
- Bid or P & P Bonds unless included in above scope and pricing.
- Site specific engineering or stamped drawings
- Protection of "in-progress" or "completed" roof assembles
- Final cleaning of finished roof surface.
- Premium or Overtime work unless specifically included above.
- Interior protection or cleaning (unless caused by Sutter)
- Composite clean up crew or worker(s). Sutter Roofing will keep our area on the roof clean daily and does not contribute to interior trash or debris.
- Sutter Roofing WILL NOT complete inspection of structural decking assembly for adequate attachment to substructure, structural load capabilities, relative humidity, moisture content, bracing around roof openings, etc.

B. Contractor Price

Seventy-Six Thousand Five Hundred and Twenty-Four Dollars	$76,524

Payment Options: **All payments shall be satisfied by check or other secured note. Should Customer/Owner elect to remit payment via credit card or debit card, a 3% charge shall be applied for the associated service charges, fees, and other costs handed down by the credit/bank card provider.**

TERMS AND CONDITIONS:

1. **The Agreement.** Please note Sutter does not agree to execute standard general contractor subcontracts without prior review and written approval. Any binding contract between Sutter and the Owner/Customer shall be based upon [1] an executed Sutter Roofing Company of Florida Proposal, an executed Standard American Institute of Architect's contract or subcontract document, which may

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2661 OLD WINTER GARDEN RD
ORLANDO, FLORIDA 32805
PHONE: (407) 367-4500
FAX: (407) 367-4519

Date: Monday, January 23, 2023

Sutter Roofing Company of Florida (hereinafter referred to as "Contractor" or "Sutter") issues this New Construction Single-Ply Proposal ("Proposal") to perform, furnish, and provide the labor, materials, supervision, equipment, and any applicable warranties (herein together referred to as the "Work") described as follows:

Proposal Number: *257892*

Client: **Peace River** ***Manasota Regional Water Supply Authority***
8998 SW County Rd 769
Arcadia, FL 34269

Attention: ***Scott Cunningham***
scunningham@regionalwater.org
239-297-2472

Project: ***Chemical Feed Buildings***

Buildings #13 and #16 REPLACEMENTS

A: SCOPE OF WORK:
Approximate Square Footage: 5,000 sf Roof Area

1. Properly set up jobsite for safety provisions on ground and roof.
2. Tear off existing roofing down to concrete deck.
3. Furnish and adhere a 115 mil fleeceback TPO roof system in accordance with manufacturer's specifications and warranty requirements.
4. Roof systems to be installed in accordance with applicable Florida Product Approval #FL10264-R16
5. Flash all roof penetrations with new premanufactured TPO pipe boots and field wrap in accordance with manufacturer's specifications and warranty requirements.
6. Furnish and install new drip edge shop fabricated from new 032 Aluminum with a standard Kynar 500 color and finish. All sheet metal work to fabricated and installed per Florida Building Code ANSI/SPRI ES-1 requirements.
7. Remove all roof debris from jobsite.
8. Furnish a Contractor 2-year workmanship warranty upon final payment for the Work.
9. Furnish a manufacturer's 20-year Warranty upon final payment for the Work.
10. Furnish a manufacturer's 20-year Finish only Warranty upon final payment for the work.

NOTES / INCLUSIONS / EXCLUSIONS:

NOTES:

- Plans Dated: N/A
- Addendums: N/A Date: N/A

- Quote expires 30 days after date of proposal.
- Sutter Roofing standard work week is four (4), ten (10) hour days. Please utilize this information for schedule creation.
- **PLEASE NOTE PRICE ESCALATION CLAUSE #2 IN TERMS AND CONDITIONS BELOW**

INCLUSIONS:

- Includes all applicable taxes, fees and permits.
- Includes ___1___ mobilizations. Additional mobilizations shall be charged at $2500.00 per occurrence.
- All hoisting of materials and equipment to roof for our scope of work, unless this is high rise work and by GC
- Complete submittals and relevant shop drawings
- VISUAL inspection of the deck as suitable to attach roofing materials.

EXCLUDES:

- Any items not specifically listed in our scope above. Specifically lighting protection and components, vertical or cavity insulation, non-roof related sheet metal fabrication and installation including: soffits, sill flashing, specialty break metals and/or prefabricated curbs are excluded from this this proposal.
- Roofing Permit – Sutter to be listed subcontractor on GC Master Permit
- Bid or P & P Bonds unless included in above scope and pricing.
- Site specific engineering or stamped drawings
- Protection of "in-progress" or "completed" roof assembles
- Final cleaning of finished roof surface.
- Premium or Overtime work unless specifically included above.
- Interior protection or cleaning (unless caused by Sutter)
- Composite clean up crew or worker(s). Sutter Roofing will keep our area on the roof clean daily and does not contribute to interior trash or debris.
- Sutter Roofing WILL NOT complete inspection of structural decking assembly for adequate attachment to substructure, structural load capabilities, relative humidity, moisture content, bracing around roof openings, etc.

B. Contractor Price

Two Hundred Twenty-Seven Thousand Three Hundred and Six Dollars $227,306

Payment Options: **All payments shall be satisfied by check or other secured note. Should Customer/Owner elect to remit payment via credit card or debit card, a 3% charge shall be applied for the associated service charges, fees, and other costs handed down by the credit/bank card provider.**

TERMS AND CONDITIONS:

1. **The Agreement.** Please note Sutter does not agree to execute standard general contractor subcontracts without prior review and written approval. Any binding contract between Sutter and the Owner/Customer shall be based upon [1] an executed Sutter Roofing Company of Florida Proposal, an executed Standard American Institute of Architect's contract or subcontract document, which may include AIA A-201 General Conditions (AIA contracts shall not be modified other than insertion of scope of work and contract sum) and [3] an executed general contractor subcontract. Sutter Roofing requests this proposal be included as an Exhibit in contract.
2. **Pricing Escalation Clause.** Due to the continued supply chain issues, specifically roofing products and accessories, the parties to this agreement acknowledge the construction industry is currently experiencing price and availability volatility with regard to the materials to be used on this project. Because of market fluctuations, the prices of these materials are subject to sudden and significant changes, and manufacturers are unable to declare final pricing prior to shipment. Suppliers will only provide a material price quotation valid at the time of the request. **The customer (Sutter Roofing) is responsible to pay for the material at the price at time of shipment, regardless of quoted price. Therefore, if there is an increase in the actual cost of the products charged to the Contractor in excess of the quoted price at the time of acceptance of this Proposal, the price set forth in this Proposal shall**

FLORIDA ROOFING AND SHEET METAL CONTRACTORS ASSOCIATION

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2661 OLD WINTER GARDEN RD
ORLANDO, FLORIDA 32805
PHONE: (407) 367-4500
FAX: (407) 367-4519

Date: Monday, January 23, 2023

Sutter Roofing Company of Florida (hereinafter referred to as "Contractor" or "Sutter") issues this New Construction Single-Ply Proposal ("Proposal") to perform, furnish, and provide the labor, materials, supervision, equipment, and any applicable warranties (herein together referred to as the "Work") described as follows:

Proposal Number: *257892*

Client: **Peace River** ***Manasota Regional Water Supply Authority***
8998 SW County Rd 769
Arcadia, FL 34269

Attention: ***Scott Cunningham***
scunningham@regionalwater.org
239-297-2472

Project: ***Pump House***

Building #17 REPLACEMENT

A: SCOPE OF WORK:
Approximate Square Footage: 1,800 sf Roof Area

1. Properly set up jobsite for safety provisions on ground and roof.
2. Tear off existing roofing down to concrete deck.
3. Furnish and adhere a 115 mil fleeceback TPO roof system in accordance with manufacturer's specifications and warranty requirements.
4. Roof system to be installed in accordance with applicable Florida Product Approval #FL10264-R16
5. Furnish and install new TPO flashing membrane at with term bar and counterflashing at interior parapet walls in accordance with manufacturer's specifications and details.
6. Remove skylight enclosure and install wood blocking on top of interior concrete wall
7. Furnish and install new R-Panel metal roofing at the previous skylight location fastened into wood blocking
8. Furnish and install new drip edge and counter flashings made from new 040 & 032 Aluminum with a standard Kynar 500 color and finish. All sheet metal work to fabricated and installed per Florida Building Code ANSI/SPRI ES-1 requirements.
9. Remove all roof debris from jobsite.
10. Furnish a Contractor 2-year workmanship warranty upon final payment for the Work.

11. Furnish a manufacturer's 20-year Warranty upon final payment for the Work.
12. Furnish a manufacturer's 20-year Finish only Warranty upon final payment for the work.

NOTES / INCLUSIONS / EXCLUSIONS:

NOTES:

- Plans Dated: N/A
- Addendums: N/A Date: N/A

- Quote expires 30 days after date of proposal.
- Sutter Roofing standard work week is four (4), ten (10) hour days. Please utilize this information for schedule creation.
- **PLEASE NOTE PRICE ESCALATION CLAUSE #2 IN TERMS AND CONDITIONS BELOW**

INCLUSIONS:

- Includes all applicable taxes, fees and permits.
- Includes ___1___ mobilizations. Additional mobilizations shall be charged at $2500.00 per occurrence.
- All hoisting of materials and equipment to roof for our scope of work, unless this is high rise work and by GC
- Complete submittals and relevant shop drawings
- VISUAL inspection of the deck as suitable to attach roofing materials.

EXCLUDES:

- Any items not specifically listed in our scope above. Specifically lighting protection and components, vertical or cavity insulation, non-roof related sheet metal fabrication and installation including: soffits, sill flashing, specialty break metals and/or prefabricated curbs are excluded from this this proposal.
- Roofing Permit – Sutter to be listed subcontractor on GC Master Permit
- Bid or P & P Bonds unless included in above scope and pricing.
- Site specific engineering or stamped drawings
- Protection of "in-progress" or "completed" roof assembles
- Final cleaning of finished roof surface.
- Premium or Overtime work unless specifically included above.
- Interior protection or cleaning (unless caused by Sutter)
- Composite clean up crew or worker(s). Sutter Roofing will keep our area on the roof clean daily and does not contribute to interior trash or debris.
- Sutter Roofing WILL NOT complete inspection of structural decking assembly for adequate attachment to substructure, structural load capabilities, relative humidity, moisture content, bracing around roof openings, etc.

B. Contractor Price

Seventy-One Thousand Seven Hundred and Seventy-Three Dollars $71,773

Payment Options: **All payments shall be satisfied by check or other secured note. Should Customer/Owner elect to remit payment via credit card or debit card, a 3% charge shall be applied for the associated service charges, fees, and other costs handed down by the credit/bank card provider.**

TERMS AND CONDITIONS:

1. **The Agreement.** Please note Sutter does not agree to execute standard general contractor subcontracts without prior review and written approval. Any binding contract between Sutter and the Owner/Customer shall be based upon [1] an executed Sutter Roofing Company of Florida Proposal, an executed Standard American Institute of Architect's contract or subcontract document, which may include AIA A-201 General Conditions (AIA contracts shall not be modified other than insertion of scope of work and contract sum) and [3] an executed general contractor subcontract. Sutter Roofing requests this proposal be included as an Exhibit in contract.
2. **Pricing Escalation Clause.** Due to the continued supply chain issues, specifically roofing products and accessories, the parties to this agreement acknowledge the construction industry is currently experiencing price and availability volatility with regard to the materials to be used on this project. Because of market fluctuations, the prices of these materials are subject to sudden and significant changes, and manufacturers are unable to declare final pricing prior to shipment. Suppliers will only provide a material price quotation

FLORIDA ROOFING AND SHEET METAL CONTRACTORS ASSOCIATION

SUTTER ROOFING

NATIONAL ROOFING CONTRACTORS ASSOCIATION

"SAFE, SOLID AND SECURE SINCE 1902"

www.sutterroofing.com LIC: #CCC054782

8284 VICO CT
SARASOTA, FLORIDA 34240
PHONE: (941) 377-1000
FAX: (941) 377-4499

8811 MAISLIN DRIVE
TAMPA, FLORIDA 33637
PHONE: (813) 868-0800
FAX: (813) 868-0500

2661 OLD WINTER GARDEN RD
ORLANDO, FLORIDA 32805
PHONE: (407) 367-4500
FAX: (407) 367-4519

Date: Tuesday, February 28, 2023

Sutter Roofing Company of Florida (hereinafter referred to as "Contractor" or "Sutter") issues this New Construction Single-Ply Proposal ("Proposal") to perform, furnish, and provide the labor, materials, supervision, equipment, and any applicable warranties (herein together referred to as the "Work") described as follows:

Proposal Number: *257892*

Client: **Peace River** ***Manasota Regional Water Supply Authority***
8998 SW County Rd 769
Arcadia, FL 34269

Attention: ***Scott Cunningham***
scunningham@regionalwater.org
239-297-2472

Project: ***DeSoto Booster Pump Station***
Building #20 REPLACEMENT

A: SCOPE OF WORK:

Approximate Square Footage: 2,100 sf Roof Area

1) Remove existing shingles and underlayment down to the deck and dispose of them properly to a proper landfill.
2) Re-nail the entire roof deck as per code.
3) If bad or rotten wood is discovered, it will be replaced at a price of $95 per 4' x 8' sheet of plywood. Two (2 Sheets of plywood are included in the proposal. Facia boards (1x6 and 1x8) are $6 per foot additional if needed.
4) Furnish and install full deck peel and stick underlayment
5) Furnish and install peel and stick membrane in all valleys, around chimneys, and sidewalls
6) Furnish and install drip edge around the perimeter of roof in standard colors: white, black, and weathered bronze
7) Install GAF ProStart Starter Shingles along all gutter lines and rake edges.
8) Install GAF Timberline HDZ Shingles per specifications using 1 ¼" roofing nails.
9) Install GAF Seal-A-Ridge Hip & Ridge Shingles.
10) Install a new ridge vent.
11) Install new lead pipe and chimney flashings.
12) Clean up all job-related debris
13) Provide Sutter Roofing with 3 Year workmanship warranty.
14) Provide the manufacturer's Standard Shingle Material Warranty.

15) Gutter and Downspouts are to remain in place.

NOTES / INCLUSIONS / EXCLUSIONS:

NOTES:

- Plans Dated: N/A
- Addendums: N/A Date: N/A

- Quote expires 30 days after date of proposal.
- Sutter Roofing standard work week is four (4), ten (10) hour days. Please utilize this information for schedule creation.
- **PLEASE NOTE PRICE ESCALATION CLAUSE #2 IN TERMS AND CONDITIONS BELOW**

INCLUSIONS:

- Includes all applicable taxes, fees and permits.
- Includes __1__ mobilizations. Additional mobilizations shall be charged at $2500.00 per occurrence.
- All hoisting of materials and equipment to roof for our scope of work, unless this is high rise work and by GC
- Complete submittals and relevant shop drawings
- VISUAL inspection of the deck as suitable to attach roofing materials.

EXCLUDES:

- Any items not specifically listed in our scope above. Specifically lighting protection and components, vertical or cavity insulation, non-roof related sheet metal fabrication and installation including: soffits, sill flashing, specialty break metals and/or prefabricated curbs are excluded from this this proposal.
- Roofing Permit – Sutter to be listed subcontractor on GC Master Permit
- Bid or P & P Bonds unless included in above scope and pricing.
- Site specific engineering or stamped drawings
- Protection of "in-progress" or "completed" roof assembles
- Final cleaning of finished roof surface.
- Premium or Overtime work unless specifically included above.
- Interior protection or cleaning (unless caused by Sutter)
- Composite clean up crew or worker(s). Sutter Roofing will keep our area on the roof clean daily and does not contribute to interior trash or debris.
- Sutter Roofing WILL NOT complete inspection of structural decking assembly for adequate attachment to substructure, structural load capabilities, relative humidity, moisture content, bracing around roof openings, etc.

B. Contractor Price

Forty-Two Thousand One Hundred and Forty Dollars $42,140

Payment Options: **All payments shall be satisfied by check or other secured note. Should Customer/Owner elect to remit payment via credit card or debit card, a 3% charge shall be applied for the associated service charges, fees, and other costs handed down by the credit/bank card provider.**

TERMS AND CONDITIONS:

1. **The Agreement.** Please note Sutter does not agree to execute standard general contractor subcontracts without prior review and written approval. Any binding contract between Sutter and the Owner/Customer shall be based upon [1] an executed Sutter Roofing Company of Florida Proposal, an executed Standard American Institute of Architect's contract or subcontract document, which may include AIA A-201 General Conditions (AIA contracts shall not be modified other than insertion of scope of work and contract sum) and [3] an executed general contractor subcontract. Sutter Roofing requests this proposal be included as an Exhibit in contract.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

CONSENT AGENDA
ITEM 6

Programmable Logic Control Panel - Owner Direct Purchase

Recommended Action -

Motion to accept bid and authorize the Executive Director to execute a purchase order to the lowest, responsible and responsive bidder, CEC Controls Company, Inc., for a not to exceed amount of $117,432.00 for the purchase of the PLC for the Peace River Facility Treatment Trains 7 and 8 Rehabilitation Project.

Treatment Trains 7 & 8 at the Peace River Facility were installed as part of the Regional Expansion Program (REP) and have been in continuous service for since 2010, treating over 35 billion gallons of water during that time. The rehabilitation of Treatment Trains 7 & 8 has been programmed into the R&R budget and is scheduled to begin in FY24. Due to long lead time for the Programmable Logic Control Panel required for this rehabilitation project, staff recommends owner direct pre-purchase the panel. This will provide flexibility in the project scheduling as well as save sales tax on the purchase.

Advertisement for bids was made on February 13, 2023 with the Bid Opening on March 16, 2023. A total of (2) two qualified bids were timely received. The lowest responsive bidder was CEC Controls Company, Inc.

Staff recommend Board approval and authorization for the Executive Director to execute a purchase order for the purchase of the PLC for the Peace River Facility Treatment Trains 7 and 8 Rehabilitation Project.

Budget Action – No action needed. Funds for the project are budgeted in R&R.

Attachments:
Tab A Notice of Intended Decision & Bid Tabulation
Tab B Bid Documents Package

TAB A
Notice of Intended Decision and Engineers Recommendation Letter

NOTICE OF INTENDED DECISION FOR AWARD OF CONTRACT -
PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
PROGRAMMABLE LOGIC CONTROL PANEL

Recommended Action - **Accept** bid and award contract to lowest, responsible and responsive bidder, CEC Controls Company, Inc., in the total amount of 117,432.00 for the Peace River Manasota Regional Water Supply Authority Programmable Logic Control Panel.

Bids were requested and two (2) bids were received by the submission deadline on March 16, 2023. No bids were rejected and all bids met the requirements of the Instructions to Bidders and the Bid Documents. Below is a Bid tabulation summary of all valid bids received (listed in alphabetical order):

Company	Amount	
CEC Controls Company, Inc	$ 117,432.00	← **low bid**
McKim & Creed, Inc.	$ 129,400.00	

Staff recommends the Authority Board of Directors accept the bid and award a contract to the lowest responsible and responsive bidder, CEC Controls Company, Inc., in the total amount of $117,432.00 for the Peace River Manasota Regional Water Supply Authority Programmable Logic Control Panel at the Authority Board meeting on April 5, 2023. Protests of this Notice of Intended Decision shall be in conformance with the Authority's Procurement Policy which is available for review at www.regionalwater.org [on the Procurement tab] and during regular business hours at the Peace River Manasota Regional Water Supply Authority, 9415 Town Center Parkway, Lakewood Ranch, Florida 34202.

Failure to file a protest within the time prescribed in section 120.57(3), Florida Statutes, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceeding under chapter 120, Florida Statutes.

Posted: March 20, 2023

BLACK & VEATCH CORPORATION
3405 W. DR. M.L.K. JR BLVD, SUITE 125, TAMPA, FL 33607
+1 813-207-7958 | KINGS@bv.com

March 17, 2023

Peace River Manasota Regional
Water Supply Authority
8998 SW, County Rd 769
Arcadia, Florida 34269

Peace River WTP Trains 7 & 8 Rehabilitation
B&V Project No: 413293
B&V File No: 81.0100

Attention: Chris Rogers

Subject: Recommendation of Award
to Furnish and Deliver Programmable Logic
Controller 30-CP-08 for Plant 4 Treatment Trains 7 & 8

Dear Mr. Rogers:

In accordance with the provisions in the Bid Documents for this project, the following proposals for the Trains 7 & 8 Rehabilitation project were received and opened on March 16, 2023:

Bidder	Proposed Total Contract Price	PLC Furnish Price
CEC Controls Company, Inc.	$117,432.00	$115,462.00
McKim & Creed, Inc.	$129,400.00	$129,000.00

Black & Veatch performed a review of the cost information provided in the completed Bid form by CEC Controls Company, Inc. and finds that CEC Controls Company, Inc. appears to understand the project.

Please note that the bid form from CEC Controls Company, Inc. did not include all the required E-Verify documents. However, a call to the Authority confirmed that the required documents where received by the Authority within the allotted timeframe.

Contingent upon satisfactory financial and legal review by the Authority, Black & Veatch recommends that the Peace River Manasota Regional Water Supply Authority award a contract in the amount of $117,432.00 to CEC Controls Company, Inc. with the contract to Furnish and Deliver the Programmable Logic Controller.

If additional information is needed, please contact us.

Very truly yours,

BLACK & VEATCH CORPORATION

Steven E. King., P.E.
Project Manager

cc: Mike McGee, Black & Veatch
Nathan Cross, Black & Veatch

TAB B
Bid Documents Package

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

INVITATION TO BID
PROGRAMMABLE LOGIC CONTROL PANEL

The Peace River Manasota Regional Water Supply Authority ("Authority") is requesting sealed bids for the purchase of a **Programmable Logic Control Panel**.

Firms desiring to bid on this offering must submit a single electronic file in searchable PDF format of their bid and other required documentation in accordance with the requirements contained in the Programmable Logic Control Panel Bid Documents via email to **procurement@regionalwater.org**, using "**Response to Bid: Programmable Logic Control Panel**" as the subject line no later than **10:00 a.m. EST on March 16, 2023**.

All Bids that have been duly received in accordance with the Invitation to Bid will opened publicly and read aloud at the Authority's Administration Office located at 9415 Town Center Parkway, Lakewood Ranch, FL 34202. Bids received after the scheduled closing time for submission will not be opened.

The Authority is seeking to purchase one (1) of the following programmable logic control panel:

Plant 4 Filter Control Panel (30-CP-08)

Bids shall be firm FOB destination price for the purchase, delivery, and unloading of the programmable logic control panel at the Peace River Facility located in DeSoto County as set forth in the Bid Documents. All bids are to be a firm price consistent with the Bid Documents.

A copy of the Bid Documents may be obtained at no charge by visiting the Authority's website (www.regionalwater.org) or by contacting Rachel Kersten at rkersten@regionalwater.org, or by calling (941) 316-1776. The Authority may also use DemandStar, a third-party provider, to distribute proposals. Visit the DemandStar website (www.demandstar.com) for more information regarding this service. Participation in the DemandStar system is not a requirement for doing business with the Authority.

All questions related to this Invitation to Bid shall be directed in writing via email to **procurement@regionalwater.org** using "**Bid Question – Programmable Logic Control Panel**" as the subject line. Questions asked/answered will be periodically posted to the Authority's website and DemandStar. The final cut-off date/time for all questions shall be **February 20, 2023 at 5:00 p.m. EST**. Questions received after the scheduled cut-off date/time for submission of all questions will go unanswered.

Dated this 13th day of February 2023

Mike Coates, Executive Director
Peace River Manasota Regional Water Supply Authority

BID FORM
PROGRAMMABLE LOGIC CONTROL PANEL

Bidder's contact person for additional information on this bid.

NAME: _____

TITLE: _____

COMPANY: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

TELEPHONE: _____

EMAIL: _____

FAX: _____

STREET ADDRESS IF DIFFERENT FROM ABOVE:

STREET ADDRESS: _____

CITY, STATE, ZIP: _____

BIDDER'S DECLARATION AND UNDERSTANDING

The undersigned, hereinafter referred to as the "Bidder", declares that the only persons or parties interested in this bid proposal are those named herein, that this bid proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the Authority, and that the bid proposal is made without any connection or collusion with any person submitting another bid proposal on this Purchase of Goods.

If this Bid is awarded to Bidder, Bidder agrees to the terms and conditions for Purchase of Goods, Programmable Logic Control Panel.

Bidder hereby acknowledges receipt of Addenda No.'s, if any,_____,_____, _____, (Bidder shall insert No. of each addendum received) and agrees that all addenda issued are hereby made part of the Bid, and the Bidder further agrees that this bid proposal(s) includes all impacts resulting from said addenda.

Bidder agrees that any and all federal, state, and local sales and use taxes that are incurred by the Bidder are included in the bid. The Authority is tax exempt.

Award shall be made to the lowest responsible and responsive bidder(s) whose bid is determined to be the most advantageous to the Authority. This shall not be an exclusive contract and the Authority reserves the right to enter into contracts with other suppliers of valves and actuators and to purchase valves and actuators from one or more suppliers.

In the event of mathematical discrepancies UNIT PRICES shall prevail.

BID FORM
PROGRAMMABLE LOGIC CONTROL PANEL

BID ITEM	Manufacturer	QUANTITY	UNIT	TOTAL PRICE
Plant 4 Filter Control Panel (30-CP-08)		1	$_____	_____ $ _____
Shipping F.O.B.				_____ $_____
Total				_____ $_____

The names of the principal officers of the corporation submitting this bid proposal, or of the partnership, or of all persons interested in this bid proposal as principals are as follows:

_____ _____

_____ _____

_____ _____

_____ _____

DATED this_____day of_____, 2023.

Bidder:_____

CORPORATE SEAL
IF APPLICABLE

By: _____
Signature

_____
Print Name and Title

IF NOT A CORPORATION:

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this _____ by _____ of _____, a _____organized under the laws of the State of _____, on behalf of the company, who is personally known to me or has produced _____ as identification.

_____
NOTARY PUBLIC-STATE OF FLORIDA
Name typed, printed, or stamped: _____
My commission expires: _____

IF CORPORATION

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this _____ by _____ of _____, a _____organized under the laws of the State of _____, on behalf of the corporation, who is personally known to me or has produced _____ as identification.

_____
NOTARY PUBLIC-STATE OF FLORIDA
Name typed, printed, or stamped: _____
My commission expires: _____

PUBLIC ENTITY CRIMES STATEMENT

Sworn Statement Under Section 287.133(3)(a), Florida Statues,
on Public Entity Crimes

THIS STATEMENT MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to Peace River Manasota Regional Water Supply Authority by

_____
(Print individual's name and title)

for

_____
(Print name of entity submitting sworn statement)

whose business address is

_____

and (if applicable) its Federal Employer Identification Number (FEIN) is

_____

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn

statement _____).

2. I understand that a 'public entity crime' as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that 'convicted' or 'conviction' as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an 'affiliate' as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

   a. A predecessor or successor of a person convicted of a public entity crime; or

   b. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term 'affiliate' includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a 'person' as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term 'person' includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **[indicate which statement applies]**

____ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list**. [attach a copy of the final order]**

I understand that the submission of this form to the contracting officer for the public entity identified in paragraph (1) above is for the public entity only and, that this form is valid through December 31 of the calendar year in which it is filed. I also understand that I am required to inform the public entity prior to entering into a contract in excess of the threshold amount provided in Section 287.017, Florida Statutes, for CATEGORY TWO of any change in the information contained in this form.

BIDDER:

_____

(Signature) (Date)

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this _____ by _____ of _____ _____, a _____organized under the laws of the State of _____, on behalf of the company, who is personally known to me or has produced _____ as identification.

_____

NOTARY PUBLIC-STATE OF FLORIDA
Name typed, printed, or stamped: _____
My commission expires: _____

E-Verify Registration and Affidavit

Section 448.095, Florida Statutes, requires that beginning January 1, 2021, contractors shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Contractor employees hired on and after January 1, 2021. Additionally, Contractor shall require all subcontractors performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Contractor must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, before entering a contract with the Authority.

Affidavit

I hereby certify that _____(Contractor) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of _____(Contractor) proof of registration in the E-Verify system is attached to this Affidavit.

_____
Signature Date

_____
Print Name

STATE OF _____
COUNTY OF_____
The foregoing instrument was acknowledged before me by means of □ physical presence or □ online notarization, this _____ (date) by_____ (name of officer or agent, title of officer or agent) of _____(name of Contractor company acknowledging), a - _____ (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced_____ (type of identification) as identification.

_____
Notary Public

_____
Name typed, printed or stamped

My Commission Expires:_____

INSTRUCTIONS TO BIDDERS
PROGRAMMABLE LOGIC CONTROL PANEL

Bid Submittal

The Peace River Manasota Regional Water Supply Authority ("Authority") is requesting sealed bids for the pre-purchase of a programmable logic control panel for its Plant 4 Rehabilitation Project. Bids must be submitted **no later than 10:00 AM EST March 16, 2023** via email to **procurement@regionalwater.org**, using "**Response to Bid: Programmable Logic Control Panel**" as the subject line. Bidders must submit a single electronic file in searchable PDF format containing a fully executed bid form and all other documents as required in the Programmable Logic Control Panel Bid Documents.

As a courtesy, the Authority will endeavor to provide an email acknowledgement usually sent within a few days after submission receipt (submissions received on the day of the deadline may not be acknowledged before the deadline or at all). It is the Firm's responsibility to confirm its submission (PDF file) has been received.

Copies of Bid Documents

The Invitation to Bid, Instructions to Bidders, Bid Form are collectively known as the "Bid Documents." A copy of the Bid Documents may be obtained at no charge by visiting the Authority's website (www.regionalwater.org) or by contacting Rachel Kersten at rkersten@regionalwater.org, or by calling (941) 316-1776. The Authority may also use DemandStar, a third-party provider, to distribute proposals. Visit the DemandStar website (www.demandstar.com) for more information regarding this service. Participation in the DemandStar system is not a requirement for doing business with the Authority.

Bid Delivery Requirements

Any bid received after 10:00 A.M. EST, March 16, 2023 will not be opened or considered. It shall be the sole responsibility of the bidder to have bid delivered to procurement@regionalwater.org on or before the above-stated date and time. Bids received after the scheduled closing time for submission will be returned unopened.

Bid Document Clarification & Addenda

Each bidder shall examine all Bid Documents and shall judge all matters relating to the adequacy and accuracy of such documents. Inquiries or requests concerning interpretation, clarification, or additional information pertaining to the Bid Documents must be made through via email at **procurement@regionalwater.org** using "**Bid Question – Programmable Logic Control Panel**" as the subject line. The Authority is not responsible for oral interpretations given by any employee, representative, or others. The issuance of a written addendum or the posting of questions asked/answered are the only official method whereby interpretation, clarification, or additional information can be given. It is the responsibility of the Bidders to periodically check the Authority's website or

DemandStar, if applicable, to ensure they are aware of the latest Bid Document information, any changes to schedule, or other key developments. It is Bidder's responsibility, before submitting a bid, to either contact the Authority's Procurement Officer at (941) 316-1776 or to check the Authority's website to determine if addenda were issued and to make sure such addenda are a part of its Bid.

Bid Opening Location

Bids will publicly be opened and read aloud by the Procurement Officer at the Authority's Administrative Office at 9415 Town Center Parkway, Lakewood Ranch, Florida 34202, immediately following the deadline for receipt of bids.

Legal Name

Bids shall clearly indicate the legal name, address, and telephone number of the bidder (company, firm, partnership, individual) and the email address of the bidder's contact person. Bids shall be signed above the typed or printed name and title of the signer. The signer shall have the authority to bind bidder to the submitted bid.

Bid Expenses

All expenses for making bids to the Authority are to be borne by the bidder.

Irrevocable Offer

Any bid may be withdrawn up until the date and time set above for opening of the bid. Any bid not so withdrawn upon official closing of bids shall constitute an irrevocable offer for a period of ninety (90) days to sell to the Authority the goods or services set forth in the attached specifications until one (1) or more of the bids have been duly accepted by the Authority through the execution of a Purchase Order.

Bid Award, Responsiveness and Responsibility

It is the Authority's intent to make an award to the lowest responsible and responsive bidder. The Authority may reject any bids from vendors who are not responsive and responsible. The Authority may reject bids: 1) that are nonconforming, unresponsive, unbalanced, or conditional or 2) that are from bidders who are unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by the Authority. The Authority may determine that it is in the Authority's best interest to waive certain immaterial irregularities or mistakes.

Florida Statutes § 283.012 (2022) defines the terms "responsive" and "responsible" as follows:

> "Responsible vendor" means a vendor who has the capability in all respects to fully perform the contract requirements and the integrity and reliability that will assure good faith performance.

"Responsive vendor" means a vendor that has submitted a bid, proposal, or reply that conforms in all material respects to the solicitation.

The Authority may make investigations to determine the ability of any bidder to deliver the goods or service requested. Bidder shall provide any information the Authority deems necessary to make this determination. Such information may include: financial statements; verification of availability of equipment and personnel; and past performance records.

The Authority will not exclusively contract with the successful bidder and may purchase goods or services from other suppliers.

Procurement Policy and Bid Protests

Bidder is hereby placed on notice of the existence of the Peace River Manasota Regional Water Supply Authority Procurement Policy, December 7, 2022 (or latest revision), and is considered to be on constructive notice of all provisions contained in it. A copy is available at the Authority's Administrative Office at 9415 Town Center Parkway, Lakewood Ranch, Florida 34202, and on the Authority's website at www.regionalwater.org.

After issuance of an invitation for bids, a request for proposals, a request for qualifications, or other solicitation, or during renegotiation of an existing contract, prospective bidders or their agents, representatives or persons acting at the request of such bidders are prohibited from contacting members of the Authority Board of Directors and Executive Director or any members of a selection or negotiation committee until after the final recommendation is presented to the Board for approval or when the solicitation has been canceled or terminated. Any questions concerning a solicitation shall be directed only to via email at procurement@regionalwater.org or (941) 316-1776, except the Procurement Officer may be contacted regarding whether any addenda have been issued. Failure to adhere to this requirement may make the bidder ineligible for selection at the discretion of the Authority.

Bidder acknowledges familiarity with the established purchasing procedures of the Authority and more specifically sections regarding Competitive Sealed Bidding, Appeals and Remedies, and Ethics in Public Contracting including gratuities and kickbacks as detailed in the Procurement Policy.

Disputes regarding the bidding process will be resolved according to the policies and procedures contained in the Procurement Policy.

The Authority will post the bid tabulation and intended decision for award on the Authority's website at www.regionalwater.org.

Failure to file a protest in accordance with Florida Law and the Procurement Policy shall constitute a waiver to the bid protest.

Public Entity Crimes

Pursuant to Subsections 287.133(2)(a) and (3)(a), Florida Statutes, a person or an affiliate who has been placed on the convicted vendor list following a conviction for public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of public building or public work, may not submit bids, proposals, or replies on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or Contractor under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes, for category two for a period of thirty-six (36) months from the date of being placed on the convicted vendors list.

Bidder shall submit with its bid an executed Public Entity Crimes Statement.

Discriminatory Vendor List

Pursuant to Subsections 287.134(2)(a) and (3)(a), Florida Statutes, an entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; mat not submit bids, proposals, or replies on leases or real property to a public entity; mat not be awarded or perform work as a contractor, supplier, subcontractor, or Contractor under a contract with any public entity, and may not transact business with any public entity.

Participation in E-Verify System

In accordance with Section 448.095, Florida Statutes, beginning January 1, 2021, every public employer, contractor, and subcontractor shall register with and use the E-Verify System to verify the work authorization status of all newly hired employees. By submitting a proposal, bidder certifies that it has registered for and will use the E-Verify System. Any contract awarded shall be terminated by the Authority if the Authority has a good faith belief that the successful bidder has knowingly violated this requirement.

Bidder shall submit with its bid an executed E-Verify Affidavit.

Scrutinized Companies

Pursuant to Section 287.135, Florida Statutes, a company that, at the time of bidding or submitting a proposal for a new contract or renewal of an existing contract, is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to Section 215.473, Florida Statutes, or has been engaged in business operations in Cuba or Syria, shall be ineligible for, and may not bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services of $1 million or more.

Bidder may not submit a bid if it is on the aforementioned lists. By submitting a bid, bidder certifies that it is not on the aforementioned lists. The bidder also acknowledges that the Authority may terminate the contract entered into in accordance with these Instructions to Bidders if the Authority deems that the bidder has been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel.

Code of Ethics

With respect to this bid, if any bidder violates or is a party to a violation of Chapter 10 of the Authority's Procurement Policy, or Chapter 112, Part III, Florida Statutes, Code of Ethics for Public Officers and Employees, such bidder may be disqualified from furnishing the goods or services for which the bid is submitted and shall be further disqualified from submitting any future bids for goods or services for the Authority. A copy of the State Ethics Code is available at the Authority's Administrative Office.

Collusion

By offering a submission to this invitation for bid, the bidder certifies the bidder has not divulged to, discussed or compared bid with other bidders and has not colluded with any other bidder or parties to this bid whatsoever. Also, bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, that in connection with this bid:

a. Any price and/or cost data submitted has been arrived at independently, without consultation, communication, or agreement for the purpose of restricting competition, as to any matter relating to such prices and or cost data, with any other bidder or with any competitor;

b. Any price and/or cost data quoted for this bid has not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to the scheduled opening directly or indirectly to any other bidder or to any competitor;

c. No attempt has been made or will be made by the bidder to induce any other person or firm to submit or not to submit a bid for the purpose of restricting competition;

d. The only person or persons interested in this bid, principal or principals is/are named therein and no person other than therein mentioned has any interest in this bid or in the contract to be entered into; and

e. No person or agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee excepting bona fide employees or established commercial agencies maintained by the Seller for the purpose of doing business.

Contract Forms

Any agreement, contract, or purchase order resulting from the acceptance of a bid shall be on forms supplied by the Authority (or reciprocal entity identified in the contract documents).

Bid Forms, Variances, Alternates

The Bid Form is included with the Bid Documents. Bids must be submitted on the Bid Form contained in the Bid Documents, although additional information may be attached. Bidders must fully comply with the specifications, terms, and conditions contained in the Bid Documents.

The Bid Form shall be typewritten or completed in ink and must be manually signed in ink. A bid item left blank shall be interpreted as a 'no bid' for that bid item.

A bid by a corporation shall be executed in the corporate name by the president of a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown below the signature. A bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

Basis of Bid; Comparison of Bids

In the event of mathematical discrepancies on the Bid Form, unit prices shall prevail in determining the basis of Bid Items on the Bid Form.

Discounts

Any and all discounts must be incorporated as a reduction in the bid price and not shown separately. The price as shown on the Bid Form shall be the price used in determining award(s).

Descriptive Information

Unless otherwise specifically provided in the specifications, all equipment, materials, and articles provided to the Authority in accordance with the contract are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in the specifications, reference to any equipment, material, article or patented process, by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition.

Taxes

Bids must include all taxes that may apply to all goods or services to be provided to the Authority. Therefore, bidders are prohibited from delineating a separate line item in the bid for any taxes. The Authority is exempt from all taxes (Florida Sales Tax Exempt Certificate No. 85-8012587856C-5). Bidder shall independently determine its tax liability for goods or services provided to the Authority.

Quality Guarantee

If any product delivered does not meet applicable specifications as specified in Bid Documents, or if the product will not produce the effect the bidder represents to the Authority, the bidder shall pick up the product from the Authority at no expense to the Authority. Also, the bidder shall refund to the Authority any money that has been paid for same. The bidder will be responsible for reimbursing the Authority for attorney fees in the event the bidder defaults and court action is required.

Quality Terms

The Authority reserves the right to reject any and all materials if, in its judgment, the item reflects unsatisfactory workmanship or manufacturing or shipping damage.

Required Specification

This control panel must be a RX3i PLC to match our existing SCADA system.

Regulations

It is the responsibility of each bidder to assure compliance with all Occupational Safety and Health Administration, Environmental Protection Agency, and other federal, state, and local laws, rules, and regulations as that may apply.

Cancellation

The Authority requires that entities that supply goods must provide prompt and convenient shipment and service. The Authority may cancel its award if the awardee fails to meet this requirement.

Royalties and Patents

The successful bidder(s) shall pay all royalties and license fees for goods in conjunction with the goods bidder is furnishing. Bidder shall defend all suits or claims for infringement of any patent right and shall save the Authority harmless from loss on account thereof and cost and attorney's fees incurred, therefore.

Authorized Product Representation

The successful bidder(s), by virtue of submitting the name and specifications of a manufacturer's product, must furnish the named manufacturer's product. By virtue of submission of its bid, the Authority presumes that the bidder(s) is legally authorized to so submit, and the successful bidder(s) will be legally bound to perform according to the Bid Documents.

Equal Employment Opportunity Clause

The Authority, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252) and the Regulations of The Department of Commerce (15 CFR, Part 8) issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this advertisement and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

Peace River Manasota
Regional Water Supply Authority

TECHNICAL AND BID SPECIFICATIONS
PROGAMMABLE LOGIC CONTROL PANEL

February 13, 2023

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

FURNISH PLANT 4 FILTER PLC PANEL (30-CP-08) PROJECT SPECIFICATIONS

FEBRUARY 2023

TABLE OF CONTENTS

Subject	Pages

SPECIFICATIONS

DIVISION 1 – GENERAL REQUIREMENTS – Not Used

DIVISION 2 – SITEWORK – Not Used

DIVISION 3 – CONCRETE – Not Used

DIVISION 4 – MASONRY – Not Used

DIVISION 5 – METALS – Not Used

DIVISION 6 – WOOD, PLASTICS, AND COMPOSITES – Not Used

DIVISION 7 – THERMAL AND MOISTURE PROTECTION – Not Used

DIVISION 8 – DOORS AND WINDOWS – Not Used

DIVISION 9 – FINISHES – Not Used

DIVISION 10 – SPECIALTIES – Not Used

DIVISION 11 – EQUIPMENT – Not Used

TABLE OF CONTENTS (Continued)

Number	Title	
DIVISION 12 – FURNISHINGS – Not Used		
DIVISION 13 – SPECIAL CONSTRUCTION		
13500	Instrumentation and Control System	1 – 17
13530	Programmable Logic Controllers	1 – 9
	Schedule Input-Output List	1 – 11
13561	Panel Mounted Instruments	1 - 4
13570	Panels, Consoles, and Appurtenances	1 – 9
	Schedule – Freestanding Vertical Panels	1 - 1
DIVISION 14 – CONVEYING SYSTEMS – Not Used		
DIVISION 15 – MECHANICAL – Not Used		
DIVISION 16 – ELECTRICAL – Not Used		

Section 13500

INSTRUMENTATION AND CONTROL SYSTEM

PART 1 – GENERAL

1-1. SCOPE. This section covers the procurement of a new PLC panel.

The PLC panel shall be furnished as specified, complete with all software, input/output hardware, instrumentation, and all devices, accessories, appurtenances, testing, and training necessary for proper operation.

The supplier shall provide a new PLC panel (30-CP-08) with P030C08 PLC I/O to be wired and connected to the PLC I/O signals terminated in the new PLC panel (30-CP-08) by Others.

The new PLC panel will continue to provide remote monitoring and control of filters 40, 41, 42, 43, 44, 45 and 46 as well as allowing the local control of the filter valves for 40, 41, 44, 45 and 46 via the existing local filter control panels switches and existing filter panels relays. Valves of filters 42 and 43 will be controlled by new switches and relays mounted on/in the new 30-CP-08 panel.

Power for the new PLC 30-CP-08 panel will be provided from the existing lighting panel 120-volt circuits. 30-CP-08 will be equipped with a Phoenix Contact SFN 8TX Ethernet switch and shall be reconnected to the plant network via CAT5E cable.

The existing GE 90-30 program in the 30-CP-08 PLC will be converted and modified as necessary to be used in programming the new RX3i PLC in 30-CP-08 by the Owner. The Owner will also provide any modifications to the Plant Control System human machine interface (HMI) necessary to account for addressing changes in the HMI due to hardware changes in the PLC.

1-1.02. Associated Sections. This section also includes the equipment and services specified in the following sections.

Section 13530	PROGRAMMABLE LOGIC CONTROLLERS
Section 13561	PANEL MOUNTED INSTRUMENTS
Section 13570	PANELS, CONSOLES, AND APPURENANCES

1-2. GENERAL. Equipment furnished and installed under this section shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with the Drawings, Specifications, engineering data, instructions, and

recommendations of the equipment manufacturer, unless exceptions are noted by Engineer.

1-2.01. Drawings. The Drawings indicate PLC panel schematics. The input/output (I/O) lists are attached as an appendix to the Programmable Logic Controllers section.

1-2.02. Codes, Permits and Agency Approvals. All work performed and all materials used shall be in accordance with the National Electrical Code, and with applicable local regulations and ordinances. Where mandated by codes, panels, assemblies, materials, and equipment shall be listed by Underwriters' Laboratories. This shall include any third-party inspections and testing of panels and equipment.

1-2.03. Supplier's Qualifications. Equipment and software furnished under this section and under other related sections listed in the Scope paragraph above shall be designed, coordinated, and supplied by a single manufacturer or supplier, hereinafter referred to as the Panel Builder. The Panel Builder shall be regularly engaged in the business of supplying computer-based monitoring, control, and data acquisition systems.

The Panel Builder shall have the following minimum qualifications:

- The Panel Builder shall have as a minimum 5 years of experience in the design, coordination and supply of computer-based monitoring, control, and data acquisition systems.
- The Panel Builder shall be one of the following system integrators:

    1. McKim and Creed
    2. Woodard and Curran
    3. Corollo.

1-2.04. Device Tag Numbering System. All devices shall be provided with permanent identification tags. The tag numbers shall agree with Panel Builder's equipment drawings and shall be as close as practical to the tag numbers used on the Drawings and schedules. Panel, subpanel, and rack-mounted devices shall have laminated phenolic identification tags securely fastened to the device. Hand-lettered or tape labels will not be acceptable.

1-3. GENERAL REQUIREMENTS. The drawings and specifications indicate the extent and general arrangement of the systems. If any departures from the Drawings or Specifications are deemed necessary by Panel Builder, details of such departures and the reasons shall be submitted to Engineer for review with or before the first stage submittal. No departures shall be made without prior written acceptance.

The specifications describe the minimum requirements for hardware and software. Where Panel Builder's standard configuration includes additional items of equipment or software features not specifically described herein, such equipment or features shall be furnished as a part of the system and shall be warranted as specified herein.

1-3.01. Governing Standards. Equipment furnished under this section shall be designed, constructed, and tested in accordance with IEEE 519, ANSI C37.90, FCC Part 15 - Class A, and NEMA ICS-1-109.60.

1-3.02. Dimensional Restrictions. Layout dimensions will vary between manufacturers and the layout area indicated on the Drawings is based on typical values. The Panel Builder shall review the Drawings, the manufacturer's layout drawings and installation requirements, and make any modifications requisite for proper installation subject to acceptance by Engineer.

1-3.03. Workmanship and Materials. Panel Builder shall guarantee all equipment against faulty or inadequate design, improper assembly or erection, defective workmanship or materials, and leakage, breakage, or other failure. Materials shall be suitable for service conditions.

All equipment shall be designed, fabricated, and assembled in accordance with recognized and acceptable engineering and shop practice. Individual parts shall be manufactured to standard sizes and thicknesses so that repair parts, furnished at any time, can be installed in the field. Like parts of duplicate units shall be interchangeable. Equipment shall not have been in service at any time prior to delivery, except for testing.

1-3.04. Corrosive Fluids. Not used.

1-3.05. Appurtenances. Signal converters, signal boosters, amplifiers, special power supplies, special cable, special grounding, and isolation devices shall be furnished as needed for proper performance of the equipment.

1-3.06. Programming Devices. Not used.

1-4. SUBMITTALS. Complete dimensional, assembly, and installation drawings, wiring and schematic diagrams; and details, specifications, and data covering the materials used and the parts, devices and accessories forming a part of the system furnished, shall be submitted in accordance with the submittals section. Submittal data shall be grouped and submitted. Individual drawings and data sheets submitted at random intervals will not be accepted for review. Equipment tag numbers or identifications used on the Drawings shall be referenced where applicable.

1-4.01. Submittal. The submittal shall include the following items.

a. A detailed list of any exceptions, functional differences, or discrepancies between the system proposed by Panel Builder and this specification.

b. Product catalog cut sheets on all hardware and software items, clearly marked to show the model number, optional features, and intended service of each device.

c. Environmental and power requirements, including heat release information for each equipment item.

d. Standard field termination drawings for all process input/output equipment, showing typical terminations for each type of point available in the system.

e. Additional Requirements identified in other Division 13 sections.

f. Complete panel fabrication drawings and details of panel wiring, piping, and painting. Panel and subpanel drawings shall be to scale and shall include overall dimensions, metal thickness, door swing, mounting details, weight, and front of panel arrangement to show general appearance, with spacing and mounting height of instruments and control devices.

g. Wiring and installation drawings for all interconnecting wiring between components of the system and between related equipment and the equipment furnished under this section. Wiring diagrams shall show complete circuits and indicate all connections. If panel terminal designations, inter-device connections, device features and options, or other features are modified during the fabrication or factory testing, revised drawings shall be submitted before shipment of the equipment to the site.

h. Fiber termination diagrams to show all fiber terminations at fiber patch panels and final termination at equipment. Fiber termination diagrams shall show individual fiber type (single or multimode), fiber core/cladding dimensions, fiber colors, circuit identifications, and type of terminator.

i. Input/output listings showing point names, numbers, and addresses. Input/output identification numbers from the contract documents shall be cross-referenced in this submittal.

j. A complete set of "as-built" wiring, fabrication, and interconnection drawings shall be provided.

1-5. PREPARATION FOR SHIPMENT. All electronic equipment and instruments shall be suitably packaged to facilitate handling and to protect against damage during transit and storage. All equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipment, handling, and storage. All equipment shall be protected from exposure to the elements, shall be kept dry at all times, and shall not be exposed to adverse ambient conditions.

Painted surfaces shall be protected against impact, abrasion, discoloration, and other damage. Painted surfaces that are damaged prior to acceptance of equipment shall be repainted.

1-6. DELIVERY, STORAGE, AND SHIPPING. Shipping shall be in coordinated with the Owner.

1-7. SPARE PARTS. Spare parts and consumable items are specified in other sections.

1-7.01. Packaging. All spare parts shall be delivered to Owner before final acceptance of the system. Packaging of spare parts shall provide protection against dust and moisture and shall be suitable for storage. Circuit boards and other electronic parts shall be enclosed in anti-static material. All packages shall be clearly marked with the manufacturer's name, part number or other identification, date of manufacture, and approximate shelf life.

1-7.02. Replacement. Panel Builder may utilize spare parts and supplies during system installation, de-bugging, startup, or training, but shall restore all such materials and supplies to the specified quantities before final acceptance of the systems.

PART 2 - PRODUCTS

2-1. GENERAL REQUIREMENTS. All equipment furnished under each section referenced in SCOPE is a part of this section and shall be selected by Panel Builder for its superior quality and intended performance. Equipment and materials used shall be subject to review.

2-1.01. Standard Products. The systems furnished shall be standard products. Where two or more units of the same type of equipment are supplied, they shall be the products of the same manufacturer; however, all components furnished hereunder need not be the products of one manufacturer unless specified herein.

2-2. PERFORMANCE AND DESIGN REQUIREMENTS. The design of the systems furnished hereunder shall utilize concepts, techniques and features that provide maximum reliability and ease of maintenance and repair. The systems shall include board-level devices such as light emitting diodes or other indicators to facilitate quick diagnosis and repair.

2-2.01. Factory Assembly. Equipment shall be shipped completely factory assembled.

2-3. POWER SUPPLY AND INSTRUMENT SIGNAL. Power supply to all control system equipment will be 120 volts, 60 Hz, single phase.

Unless otherwise indicated, power supply to the instrumentation will be unregulated 120 volts ac. All transmitted electronic analog instrument signals shall be 4-20 mA dc and shall be linear with the measured variable.

2-3.01. Facility Distribution System. Equipment not indicated to be powered from an uninterruptible power source shall be suitable for being supplied from the facility distribution system and shall be capable of withstanding voltage variations of ±10 percent and harmonics up to the limits of IEEE 519 without affecting operation. Panel Builder shall provide voltage conditioning or filtering equipment if necessary to meet the requirements specified.

2-3.02. Power Supplies. Power supplies for voltages other than those listed above shall be an integral part of the equipment furnished. Internal power supplies shall be regulated, current limiting, and self-protected.

2-3.03. Surge Withstand. All equipment shall meet all surge withstand capability tests as defined in ANSI C37.90 without damage to the equipment.

2-3.04. Uninterruptible Power Supply. An uninterruptible power supply (UPS) shall be furnished hereunder to power the equipment indicated on the Drawings and is specified in Section 13570. Panel Builder shall be responsible for coordinating the size of the UPS unit with the equipment furnished hereunder and shall advise Engineer if a unit of higher capacity is necessary.

2-4. SERVICE CONDITIONS AND ENVIRONMENTAL REQUIREMENTS. The equipment provided for the instrumentation and control system shall be suitable for the service conditions specified in the attached equipment sections.

All equipment shall be designed and selected to operate without degradation in performance throughout the environmental extremes specified. Equipment shall be designed to prevent the generation of electromagnetic and radio frequency interference and shall be in compliance with FCC Rules and Regulations, Part 15, for Class A computing devices.

2-4.01. Ambient Temperature and Elevation. All equipment located in non-air conditioned indoor areas shall be suitable for an ambient temperature range of 0°C to 50°C and a relative humidity of 10 to 95 percent, noncondensing. All equipment located outdoors shall be suitable for operation in an ambient temperature range -20°C to 60°C and a relative humidity of 5 to 100 percent.

Heaters and air conditioning/cooling equipment shall be provided where essential to maintain equipment within its manufacturer-recommended operating ranges.

All equipment and instruments shall be designed to operate at the site elevation of 22 ft.

2-4.02. Deleterious Effects. All input/output hardware shall meet or exceed, without false operation, all requirements of NEMA ICS-1-109.60, Electrical Noise Tests.

2-4.03. Noise Level. Not used.

2-4.04. Lightning Protection. In addition to other environmental protection specified herein, the entire system shall be provided with lightning protection. Lightning protection measures shall include the following.

2-4.04.01. Grounding. All major components of the system shall have a low resistance ground connection. Grounding system provisions indicated on the Drawings shall be modified as recommended by Panel Builder.

2-4.04.02. Surge Suppressors. Surge and lightning supressors shall be non-faulting, non-interrupting, and shall protect against line-to-line and line-to-ground surges. Devices shall be solid-state metal oxide varistor (MOV) or silicon junction type, with a response time of less than 50 nanoseconds. Surge protective devices shall be applied for the following:

a. All 120 VAC power connections to PLCs, instruments and control room equipment. Surge arresters shall be Transtector "ACP-100-HW Series", Power Integrity Corporation “ZTA Series”, Phoenix Contact “Mains PlugTrab”, or MCG Surge Protection “400 Series”.

b. All analog signal circuits shall be protected at the control system end of the circuit. The instrument end of the circuit is existing. Surge protection devices shall not impede or interfere with the use of smart transmitter calibration/communication. Protection devices located near the transmitter shall be Telematic “TP48.” Protection devices in control panels shall be Transtector “PDS Series or FSP Series”, Phoenix Contact “PlugTrab Series”, or Citel “BP1-24.”

c. All metallic pair (twisted and untwisted) conductor local area network and data highway termination points, where any part of the data highway cable is routed outside of the building envelope. Single-port protective devices shall be Phoenix Contact “PlugTrab Series”, Transtector “FSP” Series”, or Telematic “NP Series.”

d. All serial, PLC data highway, and remote I/O network termination points where any part of the circuit is routed outside of the building

envelope. Surge protection devices shall be Transtector “DRDC Series” (RS-232); Transtector “FSP Series” (RS-422), Phoenix Contact “PlugTrab Series” or Citel “E280 Series”.

2-5. SOFTWARE DOCUMENTATION. Not used.
2-6. SOFTWARE LICENSE. Not used.

2-7. INSTALLATION TEST EQUIPMENT. Not used..

2-8. PROGRAMMING DEVICES. Not used.

PART 3 – EXECUTION

3-1. INSTALLATION REQUIREMENTS. The installation of equipment furnished hereunder governed by the installation contract.

3-1.01. Field Wiring. Not used.

3-1.02. Sunshades Sunshades shall be provided for the new 30-CP-08 similar to the sunshades on the existing 30-CP-08.

3-1.03. Salvage of Existing Equipment. Not used.

3-2. SYSTEM SOFTWARE CONFIGURATION. System software shall be configured by the Owner. Panel Builder configuration services shall consist of factory testing the panel.

3-2.01. Control System Database. Not used.

3-2.02. Graphic Screen Displays. Not used.

3-2.03. Report Formats. Not used.

3-2.04. Configuration Standards and Conventions. Not used.

3-2.05. Configuration Review Meetings. Not used.

3-2.06. Software Functional Requirements. Not used.

3-3. SYSTEMS CHECK. Not used

3-4. TESTING. The PLC panel shall be acceptance tested at the factory.

Panel Builder shall prepare a testing procedure to be approved by Owner and Engineer that shall demonstrate that the PLC panel conforms to the

specifications. The testing procedure shall be submitted at least 30 days in advance of testing. The testing shall be conducted by Panel Builder and witnessed by Owner and/or Engineer.

Panel Builder shall notify Engineer and Owner in writing at least 14 days before the proposed testing date. If the factory acceptance test is concluded unsuccessfully, the test shall be repeated. Panel Builder shall reimburse Owner and Engineer for all expenses incurred in connection with attending repeated factory or site testing necessitated by system failure or inadequate preparation.

3-4.01. Factory Acceptance Testing. After system assembly and debugging at Panel Builder's facility, the panel shall be tested before it is shipped to the site.

All basic functions shall be demonstrated by the Panel Builder, including I/O processing and communications.

Alarm handling HMI display functions, alarm logging, as well as the specific functions listed herein will be demonstrated on site by the Owner.

3-4.01.01. Hardware Test. The test shall demonstrate proper operation of each hardware device and communications among devices, and shall include verification of selected analog and discrete inputs and outputs.

3-4.01.02. Software Test. Software testing will be performed on site by the Owner.

3-4.02. Site Acceptance Testing. Not used.

3-4.02.01. Failure of Redundant Equipment. Not used.

3-5. TRAINING. Not used.

End of Section

Section 13530

PROGRAMMABLE LOGIC CONTROLLERS

PART 1 – GENERAL

1-1. SCOPE. This section covers programmable logic controllers (PLCs), including associated input/output hardware to control process equipment and serve as the interface to field devices.

1-1.01. Control System. The Instrumentation and Control System section shall apply to all equipment furnished under this section. Additional PLC software requirements are indicated in Software Control Block Descriptions section.

1-2. GENERAL. Equipment furnished and installed under this section shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with the Drawings, Specifications, engineering data, instructions, and recommendations of the equipment manufacturer, unless exceptions are noted by Engineer.

1-2.01. General Equipment Stipulations. The General Equipment Stipulations shall apply to all equipment and materials furnished under this section. If requirements in this specification differ from those in the General Equipment Stipulations, the requirements specified herein shall take precedence.

1-2.02. Drawings. Supplementing this section, the Drawings indicate the number and types of PLCs, locations of PLCs, and provide diagrams and schematics regarding connection and interaction with other equipment. All hardware, including power supplies, special cables, and other appurtenant equipment, shall be provided to meet the functional requirements described herein and indicated on the Drawings.

1-2.03. I/O List. An input/output (I/O) field device signal listing is included as an appendix attached to this section.

1-3. SUBMITTALS. Submittals shall be as specified in the Instrumentation and Control System section.

1-4. DELIVERY, STORAGE, AND SHIPPING. Delivery, storage and shipping shall be as specified in the Instrumentation and Control System Section.

1-5. SPARE PARTS. Spare parts shall be furnished as follows:

Spare Part	Quantity
Processor modules	1 of each type used
Power supply modules	1 of each type used
I/O modules	1 of each type used
Communications modules	1 of each type used

PART 2 - PRODUCTS

2-1. GENERAL. All equipment furnished under this section shall be expressly selected by Panel Builder for its superior quality for the intended purpose and shall comply with the following requirements.

2-1.01. Interchangeability. All programmable logic controller systems shall be products of the same manufacturer and of the same series or product line. Processors, local and remote input/output hardware, communications modules, and specialty modules such as coprocessors and ASCII modules shall be interchangeable among all I/O panels and systems. PLC modules and hardware by other manufacturers will be acceptable only if the PLC manufacturer does not offer suitable modules and hardware for the same functions.

2-1.02. Initial, Spare, and Future Memory (RAM). Panel Builder shall provide adequate memory for the amount of I/O, control algorithms, and communications in the initial system.

Each programmable logic controller shall include provisions for future expansion and shall have 100 percent spare memory capacity and 100 percent spare data capacity installed. The spare memory capacity shall be documented by submitting to Engineer, during factory testing, a statement indicating the amounts of memory of all types being utilized and the total amount available in each system. The statement shall include an estimate of the total program and data memory necessary, including spare memory, based on the I/O hardware for the system, and previous programming experience.

2-1.03. Spare I/O. The PLC input/output enclosure shall be provided with at least 20 percent spare inputs and outputs of each type. Spare I/O shall be installed, wired, and interfaced properly to the terminal strip. The spare I/O shall be in addition to any I/O installed and reserved for future process signals as may be indicated on the I/O list. In addition, each PLC input/output enclosure shall be capable of accommodating 20 percent of additional input/output capacity of each type as originally assembled, without the need for additional expansion racks, communication adapters, cables, or PLC power supplies.

2-1.04. Expandability. Each new PLC processor and associated I/O shall have a future expandability of at least 50 percent of the provided system.

2-1.05. Acceptable Manufacturers. The new PLCs shall be Emerson RX3i Process Automation Controllers (PAC) Systems, model IC695CPE305, without exception.

2-1.06. Signal Power Supplies. Regulated dc power supplies shall be provided in each PLC enclosure for analog inputs, digital outputs, digital inputs, as required . Power supplies shall be suitable for an input voltage variation of ±10 percent, and the supply output shall be fused or protected against short-circuiting. Output voltage regulation shall be as required by the instrumentation equipment supplied under another section.

The loop power supply shall be separate from the power supply circuit for the processor and racks.

The power source for all digital inputs from field devices shall be separately fused for each digital input module. Unless otherwise noted, all field devices will be provided with dry contacts that close to provide an input to the PLC.

2-1.07. Appurtenances. The PLC processor and I/O hardware shall be provided as complete systems. The PLCs shall include all necessary hardware and software for a complete working system. All special rack or panel mounted power supplies, special interconnecting and programming cables, special grounding hardware, or isolation devices shall be furnished for proper operation of the equipment. Signal converters, signal boosters, amplifiers, special power supplies, special cable, special grounding, and current repeaters, surge suppression devices, and isolation devices shall be furnished and installed for proper operation of the equipment.

2-1.08. Service Conditions. PLCs will be installed outdoors where the ambient temperature range is 32-100 °F. PLCs installed outdoors shall be furnished in panels with sun shades and panels shall be powder coated white.

2-2. LARGE PLC PROCESSOR. The programmable logic controller processor shall be an industrial-type rack-mounted unit that utilizes battery-backed CMOS type or nonvolatile type memory. Battery backed memory shall include integral batteries with sufficient capacity for at least 6 months' memory retention without power to the processing unit. Standby and shelf life of the batteries shall be at least 5 years.

The system shall include internal flash memory for storage of the user program. The processor shall automatically download the user program from the flash memory upon startup after a power loss. The memory shall be programmable by

the PLC or PLC software. The user program shall be up/downloaded via USB drive as necessary.

2-2.01. Diagnostics. The processor shall utilize self-monitoring diagnostic techniques and shall contain easily visible LED diagnostic indicators for "run" and "halt" conditions as well as memory and input/output error conditions. Diagnostic codes shall also be available through the programming device to facilitate troubleshooting.

2-2.02. Programming Port. The processor shall include a programming port that is available for programming and monitoring on-line after the system is fully functional, and after all communications, human machine interface (HMI), and network connections have been made. Removal or disruption of network communications, remote I/O communications, and HMIs to allow for on-line programming and monitoring will not be acceptable. A key switch shall be provided on the processor for selection of the operating mode and as a security measure.

2-2.03. Communications. The processor shall be programmed to operate autonomously, regardless of communications status with other units. Each programmable controller shall be furnished complete with communication modules for local and remote input/output hardware communications, communications with other programmable controllers, and communication with host computers.

2-2.04. Environment. The processor shall be suitable for operation in the environments specified in another section.

2-2.05. Programming. The processor shall be programmable using the IEC 1131 All programming in any of the listed programming languages shall be documented from the tags to the logic with detailed descriptions explaining the process that is being controlled.

1131 international programming standards and ladder logic programming. IEC 1131 programming shall include the following:

Functional Block Diagram

Sequential Function Chart.

Instruction List.

Structured Text.

Ladder Diagram.

Ladder logic programming shall include a minimum of the following capabilities:

Contacts, coils, branching.

Data comparisons.

On-delay and off-delay timers.

Counters with comparators.

Floating point Math and Logical instructions.

PID loop control.

Jumps and Subroutine functions.

Master control relay.

Transitional or one-shot outputs.

Standard and user-defined data tables for digital and analog value storage.

Remote I/O capability.

2-2.06. Programming Capabilities. The processor shall include the following capabilities for programming, debugging of programs, and troubleshooting.

Off-line programming.

On-line programming.

On-line status of coils and registers.

Input/output forcing.

2-2.07. Hardware Configuration. Processors shall be configured for standard rack mounting. Each programmable logic controller processor shall include integral communications ports for the programming device, remote input/output, HMI device, or remote communications interfaces.

2-2.08. Input/Output Hardware. Input/output hardware shall be arranged as indicated on the Drawings. Programmable logic controller systems shall support the following types of input/output modules.

120 volt ac digital input and output.

4-20 mA dc analog input.

All digital input/output hardware shall include isolation against surges of at least 1500 volts. All output hardware connected to inductive loads shall be supplied with surge suppression devices and recommended by the PLC manufacturer to prevent damage to output hardware.

2-2.08.01. Wiring Terminals. All input/output modules shall utilize easily removable plug-in or hinged field wiring terminals to allow removal of modules without disconnecting individual wires.

2-2.08.02. I/O Circuit Power Supply. Outputs for motor driven equipment will typically be powered from the driven equipment. Digital outputs for miscellaneous equipment shall be powered either from the controlled equipment or the PLC enclosure as indicated on the Drawings or as coordinated with the controlled equipment supplier. Outputs that control process equipment specified under other sections or provided under other contracts shall operate interposing relays in the PLC cabinet.

2-2.08.03. Digital Input Modules. Digital input modules shall sense voltages between 100 and 130 volts ac and shall have LED indicators for each point to display the status of the field contact. Each input module shall be suitable for being connected to a separate voltage source and return. Return voltage may be common to the entire input module. Digital input modules shall have 16 inputs. Module shall be the IC694MDL240 with 16 channels.

2-2.08-04. Digital Output Modules. Digital output modules shall control voltages from 100 and 130volts ac and shall be rated at least .5 ampere maximum. Outputs shall be fused, one fuse per 8 outputs and shall have LED indicators to display output status. Outputs shall withstand a surge of at least 80 amperes for one cycle and shall have an off-state leakage current not to exceed 2.0 mA. Digital output modules shall have 16 outputs. Module shall be the IC694MDL340 with 16 channels.

2-2.08.05. Relay Digital Output Modules. Not used.

2-2.08.06. Analog Input Modules. Analog input modules shall accept linear 4-20 mA dc signals from field transmitters. Analog to digital conversion accuracy shall be at least 12-bit (0-4095 count) resolution. Analog input modules shall have multiple inputs. Module shall be the IC694ALG223 with 16 channels.

2-2.08.07. Analog Output Modules. Not used.

2-2.08.08. Panel Terminations. All PLC input/output signals for field connections shall be terminated through panel enclosure terminal strips. Direct connection of field wiring to the I/O module terminals is not acceptable.

2-2.08.09. Interposing Relays. Interposing relays shall be incorporated on all I/O circuits as shown on the PLC input/output listing.

2-4. COMMUNICATIONS. Each programmable controller system shall be furnished complete with communication hardware modules for local input/output

hardware, remote input/output hardware, other programmable controllers, or for host computers.

Communication hardware shall be compatible with the cable, data highway, fiber optic, or radio communication media. Ethernet components and cable are specified in other specification sections.

2-4.01. Addressability. Each programmable logic controller shall be individually addressable so that only the selected controller responds when queried. IP addressing shall be used. Designation of a controller's network address may be either a software or hardware function.

2-4.02. Communications Hardware. Panel Builder shall provide all necessary communications hardware to continue communications previously established. A separate Ethernet module shall be provided for communications and be mounted in the last slot of the main rack. Panel Builder shall not rely on the Ethernet port of the CPU. Module shall be the IC695ETM001. Module shall be the “-K” or newer revision.

2-4.02.01. PLC to PLC Communications Hardware. Not used.

2-4.02.02. PLC to Remote Communications Hardware. Not used.

2-4.02.03. PLC to Host Communications Hardware. Not used.

2-4.03. Communications Media. Panel Builder shall provide all necessary cabling for the PLC communications network and PLC remote I/O communications network. Communications cables shall meet the requirements of the manufacturers of the PLCs and communications modules. PLC communications media shall be as specified under the Network Systems section.

2-5. MEDIA CONVERTERS. Not Used.

2-6. TELEPHONE NETWORKS. Not used.

2-7. SERIAL NETWORKS. Not Used.

2-8. PROGRAMMING DEVICE HARDWARE. The programming device shall be a Panel Builder owned portable notebook computer.

2-9. PROGRAMMING SOFTWARE. Panel Builder shall utilize one licensed copy of PLC programming software.

2-9.01. Standard Product. The programming software shall be personal computer based and the Professional Machine Edition product of the Emerson

Intelligent Platform. The Panel Builder shall ensure that all programming is accomplished with version compatibility with the Owner's existing PLCs and licensed PLC software.

2-9.02. PLC Simulation. Not used.

2-9.03. Programming Software Features. The programming software shall allow off-line development of all PLC-related programming, including user annotation of the program, and creation and printing of application programs and I/O cross-reference lists. Special programming tasks originally provided by Panel Builder shall also be included.

On-line features shall include IEC-1311 standards program modification, ladder-logic modification, program language modification, monitoring of real-time ladder-logic execution, monitoring of program execution, monitoring and manipulation of timer and counter preset and present values, monitoring and forcing of physical I/O, and monitoring and manipulation of analog (register) and bit (binary) data table values. PLC and I/O hardware diagnostic and status information shall be accessible using the software in on-line mode.

2-10. SYSTEM ENCLOSURES. Programmable logic controllers and input/output hardware shall be housed in shop-assembled panels as indicated on the Drawings and as described in the Panels, Consoles, and Appurtenances section.

2-11. OPERATOR INTERFACE TERMINALS. Not Used.

PART 3 - EXECUTION

3-1. INSTALLATION REQUIREMENTS. PLCs installation requirements are specified in Instrumentation and Control System section except as described herein.

Field check, testing, and training shall be as specified in the Instrumentation and Control System section.

3-2. CONFIGURATION.

3-2.01. PLC Programming and Configuration. Configuration services are specified in the Instrumentation and Control System section.

3-2.02. Communications Configuration. The communications shall be fully configured and installed by Panel Builder, and shall be operational before

application software configuration by others. Communications shall be configured as shown on the Drawings.

End of Section

Input/Output List - Legend/Description Sheet

Item. This is an arbitrary sequential number which is for reference only.

Panel ID. This is the panel identification for the I/O cabinet, PLC cabinet, or controller where the I/O signal terminates.

Type: This is the type of I/O signal, as follows:

- AI = Analog Input
- AO = Analog Output
- DI = Discrete Input
- DO = Discrete Output
- PI = Pulse Input (totalizer or accumulator type input)

Service Description. This is the description or the function (i.e. Filter No. 1 Loss-of-Head).

Field Device. This is the tag number or equipment identifier associated with the I/O point.

Analog Data (Signal Type). This will typically be 4-20mA, but could also be 1-5Vdc, serial, HART, FLD-BUS, or similar to indicate the signal type of the associated input or output.

Analog Data (Range). This will be the scaled value of the input in engineering units.

Analog Data (Power Type). This will typically be '2-wire' for devices which are loop powered from the PLC enclosure, or '4-wire' for devices which are powered form external power supplies, unless noted otherwise.

Discrete Data (Signal Type). This will be 120VAC, 24VDC, or similar to indicate the signal type of the associated input or output.

Discrete Data (Closed State). This will indicate the state of the input or output when it is considered to be closed or energized (normal, alarm, running, failed, etc.).

Discrete Data (Power Source). This will indicate the location of the power source for the wetting voltage on the contacts, as follows:

- Field = External field power source. (May require interposing relays or isolated I/O module type.)
- Local = Power originates from within the PLC or I/O enclosure.

Discrete Data (Interp Relay). This will be either 'Yes' or 'No' to indicate whether the input or output requires an interposing relay. Relays are typically required to isolate external voltage sources. See specifications for additional details.

Remarks. This column may include a cross reference to another specification section where applicable, or to a note which provides additional information. Notes are appended to the end of the I/O listing.

									Analog Data			**Discrete Data**				
ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
1	DI	FILTER CELL 40 INFLUENT VALVE NO.1 30-FCV-40A OPEN	30-FCV-40A-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
2	DI	FILTER CELL 40 INFLUENT VALVE NO.1 30-FCV-40A CLOSED	30-FCV-40A-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
3	DI	FILTER CELL 40 INFLUENT VALVE NO.2 30-FCV-40B OPEN	30-FCV-40B-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
4	DI	FILTER CELL 40 INFLUENT VALVE NO.2 30-FCV-40B CLOSED	30-FCV-40B-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
5	DI	FILTER CELL 40 BACKWASH VALVE NO.1 30-FCV-40C OPEN	30-FCV-40C-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
6	DI	FILTER CELL 40 BACKWASH VALVE NO.1 30-FCV-40C CLOSED	30-FCV-40C-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
7	DI	FILTER CELL 40 BACKWASH VALVE NO.2 30-FCV-40C OPEN	30-FCV-40D-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
8	DI	FILTER CELL 40 BACKWASH VALVE NO.2 30-FCV-40D CLOSED	30-FCV-40D-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
9	DI	FILTER CELL 40 FTW OPEN	30-FCV-40J-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
10	DI	FILTER CELL 40 FTW CLOSED	30-FCV-40J-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
11	DI	FILTER CELL 40 EFFLUENT VALVE NO.1 30-FCV-40F OPEN	30-FCV-40F-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
12	DI	FILTER CELL 40 EFFLUENT VALVE NO.1 30-FCV-40F CLOSED	30-FCV-40F-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
13	DI	FILTER CELL 40 EFFLUENT VALVE NO.2 30-FCV-40G OPEN	30-FCV-40G-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
14	DI	FILTER CELL 40 EFFLUENT VALVE NO.2 30-FCV-40G CLOSED	30-FCV-40G-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
15	DI	FILTER CELL 40 AIR SCOUR OPEN	30-FCV-40E-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
16	DI	FILTER CELL 40 AIR SCOUR CLOSED	30-FCV-40E-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
17	DI	FILTER CELL 41 INFLUENT VALVE NO.1 30-FCV-41A OPEN	30-FCV-41A-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
18	DI	FILTER CELL 41 INFLUENT VALVE NO.1 30-FCV-41A CLOSED	30-FCV-41A-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
19	DI	FILTER CELL 41 INFLUENT VALVE NO.2 30-FCV-41B OPEN	30-FCV-41B-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
20	DI	FILTER CELL 41 INFLUENT VALVE NO.2 30-FCV-41B CLOSED	30-FCV-41B-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
21	DI	FILTER CELL 41 BACKWASH VALVE NO.1 30-FCV-41C OPEN	30-FCV-41C-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
22	DI	FILTER CELL 41 BACKWASH VALVE NO.1 30-FCV-41C CLOSED	30-FCV-41C-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
23	DI	FILTER CELL 41 BACKWASH VALVE NO.2 30-FCV-41D OPEN	30-FCV-41D-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
24	DI	FILTER CELL 41 BACKWASH VALVE NO.2 30-FCV-41D CLOSED	30-FCV-41D-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
25	DI	FILTER CELL 41 FTW OPEN	30-FCV-41J-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
26	DI	FILTER CELL 41 FTW CLOSED	30-FCV-41J-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
27	DI	FILTER CELL 41 EFFLUENT VALVE NO.1 30-FCV-41F OPEN	30-FCV-41F-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
28	DI	FILTER CELL 41 EFFLUENT VALVE NO.1 30-FCV-41F CLOSED	30-FCV-41F-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
29	DI	FILTER CELL 41 EFFLUENT VALVE NO.2 30-FCV-41G OPEN	30-FCV-41G-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
30	DI	FILTER CELL 41 EFFLUENT VALVE NO.2 30-FCV-41G CLOSED	30-FCV-41G-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
31	DI	FILTER CELL 41 AIR SCOUR OPEN	30-FCV-41E-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
32	DI	FILTER CELL 41 AIR SCOUR CLOSED	30-FCV-41E-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
33	DI	FILTER CELL 40 AUTOSTART BACKWASH	30-CP-07	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOSTART	NO	
34	DI	FILTER CELL 41 AUTOSTART BACKWASH	30-CP-07	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOSTART	NO	
35	DI	FILTER CELL 40 AUTOMODE BACKWASH	30-CP-07	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOMODE	NO	
36	DI	FILTER CELL 41 AUTOMODE BACKWASH	30-CP-07	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOMODE	NO	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
37	DI	FILTER CELL 40 & 41 AIRSCOUR BLOWER START	30-CP-07	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	START	NO	
38	DI	FILTER CELL 40 AIRSCOUR DONE	30-CP-07	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
39	DI	FILTER CELL 41 AIRSCOUR DONE	30-CP-07	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
40	DI	FILTER CELL 40 BACKWASH DONE	30-CP-07	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
41	DI	FILTER CELL 41 BACKWASH DONE	30-CP-07	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
42	DI	FILTER CELL 44 INFLUENT VALVE NO.1 30-FCV-44A OPEN	30-FCV-44A-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
43	DI	FILTER CELL 44 INFLUENT VALVE NO.1 30-FCV-44A CLOSED	30-FCV-44A-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
44	DI	FILTER CELL 44 INFLUENT VALVE NO.2 30-FCV-44B OPEN	30-FCV-44B-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
45	DI	FILTER CELL 44 INFLUENT VALVE NO.2 30-FCV-44B CLOSED	30-FCV-44B-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
46	DI	FILTER CELL 44 BACKWASH VALVE NO.1 30-FCV-44C OPEN	30-FCV-44C-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
47	DI	FILTER CELL 44 BACKWASH VALVE NO.1 30-FCV-44C CLOSED	30-FCV-44C-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
48	DI	FILTER CELL 44 BACKWASH VALVE NO.2 30-FCV-44D OPEN	30-FCV-44D-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
49	DI	FILTER CELL 44 BACKWASH VALVE NO.2 30-FCV-44D CLOSED	30-FCV-44D-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
50	DI	FILTER CELL 44 FTW OPEN	30-FCV-44J-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
51	DI	FILTER CELL 44 FTW CLOSED	30-FCV-44J-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
52	DI	FILTER CELL 44 EFFLUENT VALVE NO.1 30-FCV-44F OPEN	30-FCV-44F-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
53	DI	FILTER CELL 44 EFFLUENT VALVE NO.1 30-FCV-44F CLOSED	30-FCV-44F-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
54	DI	FILTER CELL 44 EFFLUENT VALVE NO.2 30-FCV-44G OPEN	30-FCV-44G-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
55	DI	FILTER CELL 44 EFFLUENT VALVE NO.2 30-FCV-44G CLOSED	30-FCV-44G-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
56	DI	FILTER CELL 44 AIR SCOUR OPEN	30-FCV-44E-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
57	DI	FILTER CELL 44 AIR SCOUR CLOSED	30-FCV-44E-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
58	DI	FILTER CELL 45 INFLUENT VALVE NO.1 30-FCV-45A OPEN	30-FCV-45A-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
59	DI	FILTER CELL 45 INFLUENT VALVE NO.1 30-FCV-45A CLOSED	30-FCV-45A-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
60	DI	FILTER CELL 45 INFLUENT VALVE NO.2 30-FCV-45B OPEN	30-FCV-45B-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
61	DI	FILTER CELL 45 INFLUENT VALVE NO.2 30-FCV-45B CLOSED	30-FCV-45B-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
62	DI	FILTER CELL 45 BACKWASH VALVE NO.1 30-FCV-45C OPEN	30-FCV-45C-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
63	DI	FILTER CELL 45 BACKWASH VALVE NO.1 30-FCV-45C CLOSED	30-FCV-45C-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
64	DI	FILTER CELL 45 BACKWASH VALVE NO.2 30-FCV-45D OPEN	30-FCV-45D-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
65	DI	FILTER CELL 45 BACKWASH VALVE NO.2 30-FCV-45D CLOSED	30-FCV-45D-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
66	DI	FILTER CELL 45 FTW OPEN	30-FCV-45J-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
67	DI	FILTER CELL 45 FTW CLOSED	30-FCV-45J-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
68	DI	FILTER CELL 45 EFFLUENT VALVE NO.1 30-FCV-45F OPEN	30-FCV-45F-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
69	DI	FILTER CELL 45 EFFLUENT VALVE NO.1 30-FCV-45F CLOSED	30-FCV-45F-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
70	DI	FILTER CELL 45 EFFLUENT VALVE NO.2 30-FCV-45G OPEN	30-FCV-45G-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
71	DI	FILTER CELL 45 EFFLUENT VALVE NO.2 30-FCV-45G CLOSED	30-FCV-45G-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
72	DI	FILTER CELL 45 AIR SCOUR OPEN	30-FCV-45E-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
73	DI	FILTER CELL 45 AIR SCOUR CLOSED	30-FCV-45E-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
74	DI	FILTER CELL 44 AUTOSTART BACKWASH	30-CP-09	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOSTART	NO	
75	DI	FILTER CELL 45 AUTOSTART BACKWASH	30-CP-09	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOSTART	NO	
76	DI	FILTER CELL 44 AUTOMODE BACKWASH	30-CP-09	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOMODE	NO	
77	DI	FILTER CELL 45 AUTOMODE BACKWASH	30-CP-09	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOMODE	NO	
78	DI	FILTER CELL 44&45 AIRSCOUR BLOWER START	30-CP-09	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	START	NO	
79	DI	FILTER CELL 44 AIRSCOUR DONE	30-CP-09	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
80	DI	FILTER CELL 45 AIRSCOUR DONE	30-CP-09	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
81	DI	FILTER CELL 44 BACKWASH DONE	30-CP-09	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
82	DI	FILTER CELL 45 BACKWASH DONE	30-CP-09	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
83	DI	FILTER CELL 46 INFLUENT VALVE NO.1 30-FCV-46A OPEN	30-FCV-46A-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
84	DI	FILTER CELL 46 INFLUENT VALVE NO.1 30-FCV-46A CLOSED	30-FCV-46A-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
85	DI	FILTER CELL 46 INFLUENT VALVE NO.2 30-FCV-46B OPEN	30-FCV-46B-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
86	DI	FILTER CELL 46 INFLUENT VALVE NO.2 30-FCV-46B CLOSED	30-FCV-46B-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
87	DI	FILTER CELL 46 BACKWASH VALVE NO.1 30-FCV-46C OPEN	30-FCV-46C-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
88	DI	FILTER CELL 46 BACKWASH VALVE NO.1 30-FCV-46C CLOSED	30-FCV-46C-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
89	DI	FILTER CELL 46 BACKWASH VALVE NO.2 30-FCV-46D OPEN	30-FCV-46D-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
90	DI	FILTER CELL 46 BACKWASH VALVE NO.2 30-FCV-46D CLOSED	30-FCV-46D-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
91	DI	FILTER CELL 46 FTW OPEN	30-FCV-46J-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
92	DI	FILTER CELL 46 FTW CLOSED	30-FCV-46J-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
93	DI	FILTER CELL 46 EFFLUENT VALVE NO.1 30-FCV-46F OPEN	30-FCV-46F-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
94	DI	FILTER CELL 46 EFFLUENT VALVE NO.1 30-FCV-46F CLOSED	30-FCV-46F-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
95	DI	FILTER CELL 46 EFFLUENT VALVE NO.2 30-FCV-46G OPEN	30-FCV-46G-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
96	DI	FILTER CELL 46 EFFLUENT VALVE NO.2 30-FCV-46G CLOSED	30-FCV-46G-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
97	DI	FILTER CELL 46 AIR SCOUR OPEN	30-FCV-46E-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
98	DI	FILTER CELL 46 AIR SCOUR CLOSED	30-FCV-46E-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
99	DI	FILTER CELL 42 INFLUENT VALVE NO.1 30-FCV-42A OPEN	30-FCV-42A-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
100	DI	FILTER CELL 46 AUTOSTART BACKWASH	30-CP-10	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOSTART	NO	
101	DI	FILTER CELL 42 INFLUENT VALVE NO.1 30-FCV-42A CLOSED	30-FCV-42A-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
102	DI	FILTER CELL 46 AUTOMODE BACKWASH	30-CP-10	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOMODE	NO	
103	DI	FILTER CELL 42 INFLUENT VALVE NO.2 30-FCV-42B OPEN	30-FCV-42B-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
104	DI	FILTER CELL 46 AIRSCOUR BLOWER START	30-CP-10	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	START	NO	
105	DI	FILTER CELL 42 INFLUENT VALVE NO.2 30-FCV-42B CLOSED	30-FCV-42B-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
106	DI	FILTER CELL 46 AIRSCOUR DONE	30-CP-10	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
107	DI	FILTER CELL 42 BACKWASH VALVE NO.1 30-FCV-42C OPEN	30-FCV-42C-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
108	DI	FILTER CELL 46 BACKWASH DONE	30-CP-10	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
109	DI	FILTER CELL 42 BACKWASH VALVE NO.1 30-FCV-42C CLOSED	30-FCV-42C-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
110	DI	FILTER CELL 42 BACKWASH VALVE NO.2 30-FCV-42D OPEN	30-FCV-42D-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
111	DI	FILTER CELL 42 BACKWASH VALVE NO.2 30-FCV-42D CLOSED	30-FCV-42D-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
112	DI	FILTER CELL 42 FTW OPEN	30-FCV-42J-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
113	DI	FILTER CELL 42 FTW CLOSED	30-FCV-42J-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
114	DI	FILTER CELL 42 EFFLUENT VALVE NO.1 30-FCV-42F OPEN	30-FCV-42F-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
115	DI	FILTER CELL 42 EFFLUENT VALVE NO.1 30-FCV-42F CLOSED	30-FCV-42F-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
116	DI	FILTER CELL 42 EFFLUENT VALVE NO.2 30-FCV-42G OPEN	30-FCV-42G-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
117	DI	FILTER CELL 42 EFFLUENT VALVE NO.2 30-FCV-42G CLOSED	30-FCV-42G-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
118	DI	FILTER CELL 42 AIR SCOUR OPEN	30-FCV-42E-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
119	DI	FILTER CELL 42 AIR SCOUR CLOSED	30-FCV-42E-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
120	DI	FILTER CELL 43 INFLUENT VALVE NO.1 30-FCV-43A OPEN	30-FCV-43A-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
121	DI	FILTER CELL 43 INFLUENT VALVE NO.1 30-FCV-43A CLOSED	30-FCV-43A-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
122	DI	FILTER CELL 43 INFLUENT VALVE NO.2 30-FCV-43B OPEN	30-FCV-43B-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
123	DI	FILTER CELL 43 INFLUENT VALVE NO.2 30-FCV-43B CLOSED	30-FCV-43B-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
124	DI	FILTER CELL 43 BACKWASH VALVE NO.1 30-FCV-43C OPEN	30-FCV-43C-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
125	DI	FILTER CELL 43 BACKWASH VALVE NO.1 30-FCV-43C CLOSED	30-FCV-43C-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
126	DI	FILTER CELL 43 BACKWASH VALVE NO.2 30-FCV-43D OPEN	30-FCV-43D-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
127	DI	FILTER CELL 43 BACKWASH VALVE NO.2 30-FCV-43D CLOSED	30-FCV-43D-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
128	DI	FILTER CELL 43 FTW OPEN	30-FCV-43J-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
129	DI	FILTER CELL 43 FTW CLOSED	30-FCV-43J-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
130	DI	FILTER CELL 43 EFFLUENT VALVE NO.1 30-FCV-43F OPEN	30-FCV-43F-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
131	DI	FILTER CELL 43 EFFLUENT VALVE NO.1 30-FCV-43F CLOSED	30-FCV-43F-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
132	DI	FILTER CELL 43 EFFLUENT VALVE NO.2 30-FCV-43G OPEN	30-FCV-43G-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
133	DI	FILTER CELL 43 EFFLUENT VALVE NO.2 30-FCV-43G CLOSED	30-FCV-43G-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
134	DI	FILTER CELL 43 AIR SCOUR OPEN	30-FCV-43E-OP	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	OPEN	NO	
135	DI	FILTER CELL 43 AIR SCOUR CLOSED	30-FCV-43E-CL	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	CLOSED	NO	
136	DI	FILTER CELL 42 AUTOSTART BACKWASH	PB604	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOSTART	NO	
137	DI	FILTER CELL 43 AUTOSTART BACKWASH	PB605	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOSTART	NO	
138	DI	FILTER CELL 42 AUTOMODE BACKWASH	SS202	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOMODE	NO	
139	DI	FILTER CELL 43 AUTOMODE BACKWASH	SS242	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	AUTOMODE	NO	
140	DI	FILTER CELL 42&43 AIRSCOUR BLOWER START	PB611	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	START	NO	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
141	DI	FILTER CELL 42 AIRSCOUR DONE	TR556	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
142	DI	FILTER CELL 43 AIRSCOUR DONE	TR569	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
143	DI	FILTER CELL 42 BACKWASH DONE	TR561	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
144	DI	FILTER CELL 43 BACKWASH DONE	TR574	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	DONE	NO	
145	DI	FILTER CELL 42&43 MANUAL BLOWER STOP	PB629	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	STOP	NO	
146	DI	BLOWER RUN	30-BL-37	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	RUNNING	NO	
147	DI	BLOWER RUN	30-BL-36	30-CP-08						N/A	N/A	PLC PANEL	120 VAC	RUNNING	NO	
148	AI	FILTER CELL 40 TURBIDITY INDICATION	30-AI-40A	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
149	AI	FILTER CELL 41 TURBIDITY INDICATION	30-AI-41A	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
150	AI	FILTER CELL 42 TURBIDITY INDICATION	30-AI-42A	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
151	AI	FILTER CELL 43 TURBIDITY INDICATION	30-AI-43A	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
152	AI	FILTER CELL 44 TURBIDITY INDICATION	30-AI-44A	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
153	AI	FILTER CELL 45 TURBIDITY INDICATION	30-AI-45A	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
154	AI	FILTER CELL 46 TURBIDITY INDICATION	30-AI-46A	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
155	AI	FILTER CELL 40 LEVEL INDICATION	30-AI-40C	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
156	AI	FILTER CELL 41 LEVEL INDICATION	30-AI-41C	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
157	AI	FILTER CELL 42 LEVEL INDICATION	30-AI-42C	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
158	AI	FILTER CELL 43 LEVEL INDICATION	30-AI-43C	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
159	AI	FILTER CELL 44 LEVEL INDICATION	30-AI-44C	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
160	AI	FILTER CELL 45 LEVEL INDICATION	30-AI-45C	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
161	AI	FILTER CELL 46 LEVEL INDICATION	30-AI-46C	30-CP-08					4-20 mA		4-WIRE	N/A		N/A	NO	
162	DO	FILTER CELL 40 INLET VALVE NO 1	30-FCV-40A	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
163	DO	FILTER CELL 40 INLET VALVE NO 2	30-FCV-40B	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
164	DO	FILTER CELL 40 BACKWASH VALVE NO 1	30-FCV-40C	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
165	DO	FILTER CELL 40 BACKWASH VALVE NO 2	30-FCV-40D	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
166	DO	FILTER CELL 40 AIR-SCOUR VALVE	30-FCV-40E	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
167	DO	FILTER CELL 40 FILTER TO WASTE VALVE	30-FCV-40J	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
168	DO	FILTER CELL 40 EFFLUENT VALVE NO 1	30-FCV-40F	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
169	DO	FILTER CELL 40 EFFLUENT VALVE NO 2	30-FCV-40G	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
170	DO	FILTER CELL 41 INLET VALVE NO 1	30-FCV-41A	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
171	DO	FILTER CELL 41 INLET VALVE NO 2	30-FCV-41B	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
172	DO	FILTER CELL 41 BACKWASH VALVE NO 1	30-FCV-41C	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
173	DO	FILTER CELL 41 BACKWASH VALVE NO 2	30-FCV-41D	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
174	DO	FILTER CELL 41 AIR-SCOUR VALVE	30-FCV-41E	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
175	DO	FILTER CELL 41 FILTER TO WASTE VALVE	30-FCV-41J	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
176	DO	FILTER CELL 41 EFFLUENT VALVE NO 1	30-FCV-41F	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
177	DO	FILTER CELL 41 EFFLUENT VALVE NO 2	30-FCV-41G	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
178	DO	FILTER CELL 44 INLET VALVE NO 1	30-FCV-44A	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
179	DO	FILTER CELL 44 INLET VALVE NO 2	30-FCV-44B	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
180	DO	FILTER CELL 44 BACKWASH VALVE NO 1	30-FCV-44C	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
181	DO	FILTER CELL 44 BACKWASH VALVE NO 2	30-FCV-44D	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
182	DO	FILTER CELL 44 AIR-SCOUR VALVE	30-FCV-44E	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
183	DO	FILTER CELL 44 FILTER TO WASTE VALVE	30-FCV-44J	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
184	DO	FILTER CELL 44 EFFLUENT VALVE NO 1	30-FCV-44F	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
185	DO	FILTER CELL 44 EFFLUENT VALVE NO 2	30-FCV-44G	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
186	DO	FILTER CELL 45 INLET VALVE NO 1	30-FCV-45A	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
187	DO	FILTER CELL 45 INLET VALVE NO 2	30-FCV-45B	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
188	DO	FILTER CELL 45 BACKWASH VALVE NO 1	30-FCV-45C	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
189	DO	FILTER CELL 45 BACKWASH VALVE NO 2	30-FCV-45D	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
190	DO	FILTER CELL 45 AIR-SCOUR VALVE	30-FCV-45E	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
191	DO	FILTER CELL 45 FILTER TO WASTE VALVE	30-FCV-45J	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
192	DO	FILTER CELL 45 EFFLUENT VALVE NO 1	30-FCV-45F	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
193	DO	FILTER CELL 45 EFFLUENT VALVE NO 2	30-FCV-45G	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
194	DO	FILTER CELL 46 INLET VALVE NO 1	30-FCV-46A	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
195	DO	FILTER CELL 46 INLET VALVE NO 2	30-FCV-46B	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
196	DO	FILTER CELL 46 BACKWASH VALVE NO 1	30-FCV-46C	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
197	DO	FILTER CELL 46 BACKWASH VALVE NO 2	30-FCV-46D	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
198	DO	FILTER CELL 46 AIR-SCOUR VALVE	30-FCV-46E	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
199	DO	FILTER CELL 46 FILTER TO WASTE VALVE	30-FCV-46J	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
200	DO	FILTER CELL 46 EFFLUENT VALVE NO 1	30-FCV-46F	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
201	DO	FILTER CELL 46 EFFLUENT VALVE NO 2	30-FCV-46G	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
202	DO	BLOWER START/STOP CONTROL								N/A	N/A	FIELD	120 VAC	START	YES	
203	DO	FILTER CELL 43 INLET VALVE NO 1	30-FCV-43A	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
204	DO	FILTER CELL 43 INLET VALVE NO 2	30-FCV-43B	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
205	DO	FILTER CELL 43 BACKWASH VALVE NO 1	30-FCV-43C	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
206	DO	FILTER CELL 43 BACKWASH VALVE NO 2	30-FCV-43D	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
207	DO	FILTER CELL 43 AIR-SCOUR VALVE	30-FCV-43E	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
208	DO	FILTER CELL 43 FILTER TO WASTE VALVE	30-FCV-43J	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
209	DO	FILTER CELL 43 EFFLUENT VALVE NO 1	30-FCV-43F	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
210	DO	FILTER CELL 43 EFFLUENT VALVE NO 2	30-FCV-43G	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
211	DO	FILTER CELL 42 INLET VALVE NO 1	30-FCV-42A	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
212	DO	FILTER CELL 42 INLET VALVE NO 2	30-FCV-42B	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
213	DO	FILTER CELL 42 BACKWASH VALVE NO 1	30-FCV-42C	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
214	DO	FILTER CELL 42 BACKWASH VALVE NO 2	30-FCV-42D	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
215	DO	FILTER CELL 42 AIR-SCOUR VALVE	30-FCV-42E	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
216	DO	FILTER CELL 42 FILTER TO WASTE VALVE	30-FCV-42J	30-CP-08						N/A	N/A	FIELD	120 VAC	OPEN	YES	
217	DO	FILTER CELL 42 EFFLUENT VALVE NO 1	30-FCV-42F	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
218	DO	FILTER CELL 42 EFFLUENT VALVE NO 2	30-FCV-42G	30-CP-08						N/A	N/A	FIELD	120 VAC	CLOSE	YES	
219	DO	CELL 40 ENABLE AIR SCOUR TIMER	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE AIR SCOUR	YES	
220	DO	CELL 40 ENABLE BACKWASH TIMER	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE BACKWASH	YES	
221	DO	CELL 41 ENABLE AIR SCOUR TIMER	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE AIR SCOUR	YES	
222	DO	CELL 41 ENABLE BACKWASH TIMER	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE BACKWASH	YES	
223	DO	CELL 42 ENABLE AIR SCOUR TIMER	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE AIR SCOUR	YES	
224	DO	CELL 42 ENABLE BACKWASH TIMER	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE BACKWASH	YES	
225	DO	CELL 43 ENABLE AIR SCOUR TIMER	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE AIR SCOUR	YES	
226	DO	CELL 43 ENABLE BACKWASH TIMER	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE BACKWASH	YES	
227	DO	CELL 44 ENABLE AIR SCOUR TIMER	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE AIR SCOUR	YES	
228	DO	CELL 44 ENABLE BACKWASH TIMER	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE BACKWASH	YES	
229	DO	CELL 45 ENABLE AIR SCOUR TIMER	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE AIR SCOUR	YES	
230	DO	CELL 45 ENABLE BACKWASH TIMER	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE BACKWASH	YES	
231	DO	CELL 46 ENABLE AIR SCOUR TIMER	30-CP-10	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE AIR SCOUR	YES	
232	DO	CELL 46 ENABLE BACKWASH TIMER	30-CP-10	30-CP-08						N/A	N/A	FIELD	120 VAC	ENABLE BACKWASH	YES	
233	DO	FILTER 40 LEVEL HIGH	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	HIGH LEVEL	YES	
234	DO	FILTER 41 LEVEL HIGH	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	HIGH LEVEL	YES	
235	DO	FILTER 42 LEVEL HIGH	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	HIGH LEVEL	YES	
236	DO	FILTER 43 LEVEL HIGH	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	HIGH LEVEL	YES	
237	DO	FILTER 44 LEVEL HIGH	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	HIGH LEVEL	YES	
238	DO	FILTER 45 LEVEL HIGH	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	HIGH LEVEL	YES	
239	DO	FILTER 46 LEVEL HIGH	30-CP-10	30-CP-08						N/A	N/A	FIELD	120 VAC	HIGH LEVEL	YES	
240	DO	FILTER 40 TURBIDITY HIGH	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	LOW pH	YES	
241	DO	FILTER 41 TURBIDITY HIGH	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	LOW pH	YES	
242	DO	FILTER 42 TURBIDITY HIGH	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	LOW pH	YES	
243	DO	FILTER 43 TURBIDITY HIGH	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	LOW pH	YES	
244	DO	FILTER 44 TURBIDITY HIGH	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	LOW pH	YES	
245	DO	FILTER 45 TURBIDITY HIGH	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	LOW pH	YES	
246	DO	FILTER 46 TURBIDITY HIGH	30-CP-10	30-CP-08						N/A	N/A	FIELD	120 VAC	LOW pH	YES	
247	DO	FILTER 40 BACKWASH IN PROGRESS	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	BW IN PROGRESS	YES	
248	DO	FILTER 41 BACKWASH IN PROGRESS	30-CP-07	30-CP-08						N/A	N/A	FIELD	120 VAC	BW IN PROGRESS	YES	
249	DO	FILTER 42 BACKWASH IN PROGRESS	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	BW IN PROGRESS	YES	

ITEM	IO Type	Description	Field Device	PLC	Rack	Slot	Point		Analog Signal Type	Analog Range	Analog Power Type	Digital Power Source	Digital Signal Type	Digital Close State	Digital Interp Relay	Remarks
250	DO	FILTER 43 BACKWASH IN PROGRESS	30-CP-08	30-CP-08						N/A	N/A	FIELD	120 VAC	BW IN PROGRESS	YES	
251	DO	FILTER 44 BACKWASH IN PROGRESS	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	BW IN PROGRESS	YES	
252	DO	FILTER 45 BACKWASH IN PROGRESS	30-CP-09	30-CP-08						N/A	N/A	FIELD	120 VAC	BW IN PROGRESS	YES	
253	DO	FILTER 46 BACKWASH IN PROGRESS	30-CP-10	30-CP-08						N/A	N/A	FIELD	120 VAC	BW IN PROGRESS	YES	
254	DI	CAUSTIC PUMP START	30-CP-07,08,09,10	30-CP-08						N/A	N/A	FIELD	120 VAC	CAUSTIC START	YES	SWITCH PARALLEL WIRING
255	DI	CAUSTIC PUMP STOP	30-CP-07,08,09,10	30-CP-08						N/A	N/A	FIELD	120 VAC	CAUSTIC STOP	YES	SWITCH PARALLEL WIRING

Section 13561

PANEL MOUNTED INSTRUMENTS

PART 1 - GENERAL.

1-1. SCOPE. The Panel Mounted Instruments section covers the furnishing of all panel mounted instruments and accessories required for the Instrumentation and Control System as specified herein or as indicated on the Drawings.

Equipment and services provided under this section shall be subject to the Instrumentation and Control System section. This section shall be used and referenced only in conjunction with the Instrumentation and Control System section. Supplementing the Instrumentation and Control System section, instrument data, special requirements, and options are indicated on the Drawings or the Instrument Device Schedule.

When multiple instruments of a particular type are specified, and each requires different features, the required features are described on the Drawings or the Instrument Device Schedule.

1-2. DESIGN CRITERIA. The instruments shall be installed to measure, monitor, or display the specified process at the ranges and service conditions indicated on the Drawings or as indicated in the Instrument Device Schedule. The instruments shall be installed at the locations indicated on the Drawings or the Instrument Device Schedule.

Where possible, each instrument shall be factory calibrated to the calibration ranges indicated on the Drawings or in the Instrument Device Schedule. Transmitters or similar measurement instruments shall be calibrated using National Institute of Standards and Technology (NIST) approved bench calibration procedures, when such procedures exist for the instrument type. For "smart" devices, calibration data shall be stored digitally in each device, including the instrument tag designation indicated on the Drawings and/or Instrument Device Schedule.

1-3. SUBMITTALS. Submittals shall be as specified in the Instrumentation and Control System section.

PART 2 - PRODUCTS

2-1. GENERAL. The following paragraphs describe minimum device stipulations. The Drawings or Instrument Device Schedule shall be used to determine any additional instrument options, requirements, or service conditions.

2-1.01 Programming Device. For systems that require a dedicated programming device for calibration, maintenance, or troubleshooting, one such programming device shall be provided for each Owner facility (quantity required shall be as indicated in the Instrumentation and Control System section). The programming device shall include appropriate operation manuals and shall be included in the training stipulations. For systems that allow the programming device functions to be implemented in software, running on a laptop computer, the software shall be provided instead of the programming device.

2-1.02 Configuration Software/Serial Interface. Devices indicated as requiring a serial interface shall be provided with all accessories to properly communicate over the serial link. An appropriate cable shall be provided to allow the transmitter serial interface to be connected to a laptop computer. One licensed copy of the diagnostic/interface software shall be provided for each Owner facility (quantity required shall be as indicated in the Instrumentation and Control System section). Software shall be capable of running under the Windows 10 operating system. If the software furnished performs the same functions as the programming device, specified elsewhere, then the programming device need not be furnished.

2-2. PANEL FRONT MOUNTED DEVICES.

2-2.01. Annunciators. Not used.

2-2.02. Totalizers. Not used.

2-2.03. Digital Panel Indicators. Not used.

2-2.04. Electronic Bar Graph Indicators. Not used.

2-2.05. Edgewise Panel Indicators. Not used.

2-2.06. Manual Loading Stations. Not used.

2-2.07. Ratio Stations. Not used.

2-2.08. 1/4 DIN Single-Loop Control Stations. Not used.

2-2.9. 1/4 DIN Manual/Auto Backup Stations. Not used.

2-2.10. Large Case Recorders. Not used.

2-2.11. Strip Chart Recorders. Not used.

2-2.12. Panel-Mounted Pressure Gauges. Not used.

2-2.13. Digital Panel Clocks. Not used.

2-2.14. Switches, Lights, and Push Buttons.

2-2.14.01. Selector Switches. Selector switches shall be 30.5-mm, heavy-duty, oil-tight type with gloved-hand or wing lever operators. Position legends shall be engraved on the switch faceplate. Switches for electric circuits shall have silver butting or sliding contacts, rated 10 amperes continuous at 120 V ac. Contact configuration shall be as indicated on the Drawings or for the application. Switches used in electronic signal circuits shall have contacts suitable for that duty. Switches shall be Eaton/Cutler-Hammer "10250T", General Electric "CR104P", or Allen Bradley “800T”.

2-2.14.02. Indicating Lights. Indicating lights shall be 30.5-mm, heavy-duty, oil-tight type, with full voltage LED lamps. Legends shall be engraved on the lens or on a legend faceplate. Lights shall be push-to-test type. Indicating lights shall be Eaton/Cutler Hammer "10250T", General Electric "CR104P", or Allen Bradley “800T”.

2-2.14.03. Push Buttons. Push buttons shall be 30.5-mm, heavy-duty, oil-tight type. Legends shall be engraved on the push-button faceplate. Contacts shall be rated 10 amperes continuous at 120 V ac. Push buttons shall be Eaton/Cutler-Hammer "10250T", General Electric "CR104P", or Allen Bradley “800T”.

2-2.15. Alarm Horns. Not Used .

2-3. PANEL INTERIOR MOUNTED DEVICES.

2-3.01. Integrators. Not used.

2-3.02. Power Supplies. Regulated dc power supplies for instrument loops shall be designed and arranged so that loss of one supply does not affect more than one instrument loop or system. Power supplies shall be suitable for an input voltage variation of ±10 percent, and the supply output shall be fused or shortcircuit protected. Output voltage regulation shall be by the instrumentation

equipment supplied. Multiloop or multisystem power supplies will be acceptable if backup power supply units are provided which will automatically supply the load upon failure of the primary supply. The backup supply systems shall be designed so either the primary or the backup supply can be removed, repaired, and returned to service without disrupting the instrument system operation. Multiloop power supply connections shall be individually fused so a fault in one instrument loop will be isolated from the other loops being fed from the same supply. Fuses shall be clearly labeled and shall be located for easy access. Multiloop supply systems shall be oversized for an additional 10 percent future load. Failure of a multiloop supply shall be indicated on the respective instrument panel or enclosure.

Power supplies shall be Allen Bradley, Phoenix Contact, PULS, or equal.

2-3.03. Relays. Relays indicated to be provided in panels, enclosures, or systems furnished under this section shall be 8 or 11 pin base type of plug-in socket type with dustproof plastic enclosures unless noted otherwise. Relays shall be UL recognized and shall have not less than double-pole, double-throw contacts. Control circuit relays shall have silver cadmium oxide contacts rated 10 amperes at 120 V ac. Electronic switching-duty relays shall have gold-plated or gold alloy contacts suitable for use with low-level signals. Relays used for computer input, alarm input, or indicating light service shall have contacts rated at least 3 amperes. Time delay relays shall have dials or switch settings engraved in seconds and shall have timing repeatability of ±2 percent of setting. Latching and special purpose relays shall be for the specific application. Unless otherwise indicated, all relays shall have an integral pilot light that illuminates to indicate an energized condition. Relays shall be IDEC "Series RR" or Potter & Brumfield "Series KRPA, CB".

2-3.04. Intrinsically Safe Relays. Not used.

2-3.05. Electronic Signal Booster/Isolators. Not used.

2-3.06. Electronic Signal Selectors. Not used.

2-3.07. Electronic Signal Summers. Not used.

2-3.08. Fixed Deadband Signal Monitors. Not used.

2-3.09. Adjustable Deadband Signal Monitors. Not used.

2-3.10. Strip Heaters. Not used.

2-3.11. Intrinsically Safe Barriers. Not used.

PART 3 – EXECUTION

3-1 FIELD SERVICES. Manufacturer's field services shall be provided for installation, field calibration, startup, and training as specified in the Instrumentation and Control System section. Instruments shall not be shipped to the Work Site until two weeks prior to the scheduled installation. Panel Builder shall be responsible for coordinating the installation schedule with the Installation Contractor. Each shipment shall contain a listing of protective measures required to maintain sensor operation, including a listing of any common construction or cleaning chemicals that may affect instrument operation.

End of Section

Section 13570

PANELS, CONSOLES, AND APPURTENANCES

PART 1 - GENERAL

1-1. SCOPE. The Panels, Consoles and Appurtenances section covers the furnishing of panels, consoles, and appurtenances as indicated on the Drawings and listed in the attached Equipment Schedule 13570-S01.

1-1.01. Control System. The Instrumentation and Control System section shall apply to all equipment furnished under the Panels, Consoles and Appurtenances section.

1-2. GENERAL. Equipment furnished and installed under this section shall be fabricated and assembled in full conformity with the Drawings, specifications, equipment schedules, engineering data, instructions, and recommendations of the equipment manufacturer, unless exceptions are noted by Engineer.

1-2.01. General Equipment Stipulations. Not used.

1-2.02. Seismic Design Requirements. Not used.

1-2.03. Drawings. General dimensions and arrangements are indicated on the Drawings and on the attached equipment schedule.

1-3. SUBMITTALS. Submittals shall be made as specified in the Instrumentation and Control System section.

1-4. DELIVERY, STORAGE, AND SHIPPING. Delivery, storage and shipping shall be as per The Instrumentation and Control System section.

PART 2 - PRODUCTS.

2-1. PANEL DESIGN AND FABRICATION FEATURES. All panels furnished shall conform to the stipulations of NEMA ICS-6-1993. Unless indicated otherwise on the Drawings, the following paragraphs describe general fabrication specifications for the PLC cabinets, instrument panels, consoles, enclosures, and subpanels.

2-1.01. Piping. Not used.

2-1.01.01. Fittings. Not used.

2-1.01.02. Valves. Not used.

2-1.02. Power Entrance. The power entrance to each panel shall be provided with a surge protection device. Refer to the Instrumentation and Controls section for surge suppression requirements.

2-1.03. Power Wiring. Power distribution wiring on the line side of panel fuses shall be minimum 12 AWG. Secondary power distribution wiring shall be minimum 14 AWG. Wiring for ac power distribution, dc power distribution, intrinsically safe, and control circuits shall have different colors and shall agree with the color-coding legend on Panel Builder's panel wiring diagrams. With the exception of electronic circuits, all interconnecting wiring and wiring to terminals for external connection shall be stranded copper, insulated for not less than 600 volts, with a moisture resistant and flame retardant covering rated for not less than 90°C.

2-1.04. Instrument and Control Wiring. All internal panel wiring shall be type MTW stranded copper wiring rated not less than 600 volts. Electronic analog circuits shall be twisted and shielded pairs rated not less than 300 volts. Analog circuits shall be separated from ac power circuits. Wires within the panel shall conform to the minimum size as shown in the table below.

Type	Min. Wire Size	Color
AC Control	16 AWG	Red
DC Control	16 AWG	Blue
Analog Circuits	18 AWG Twisted Pair	Black-White

All wiring shall be grouped or cabled and firmly supported inside the panel. Each individual wire in power, control, and instrumentation circuits shall be provided with identification markers at each point of termination. The wire markers shall be positioned to be readily visible for inspection and the identification numbers shall match the identification on the supplier's panel wiring drawings. Wiring shall be bundled in groups and bound with nylon cable ties or routed in Panduit or similar nonmetallic slotted ducts. Ducts shall be readily accessible within the panel, with removable covers, and with space equal to at least 40 percent of the depth of the duct remaining available for future use after completion of installation and field wiring. Sufficient space shall be provided between cable groups or ducts and terminal blocks for easy installation or removal of cables.

2-1.05. Terminal Blocks. Terminal blocks for external connections shall be suitable for 12 AWG wire and shall be rated 30 amperes at not less than 300 volts. Terminal blocks shall be fabricated complete with marking strip, covers, and pressure connectors. Terminals shall be labeled to agree with identification shown on the supplier's submittal drawings. A terminal shall be provided for each conductor of external circuits, plus one ground for each shielded cable. Not less than 8 inches of clearance shall be provided between

the terminal strips and the base of vertical panels for conduit and wiring space. Not less than 25 percent spare terminals shall be provided. Each control loop or system shall be individually fused, and all fuses or circuit breakers shall be clearly labeled and located for easy maintenance.

2-1.06. Backup Power. Power supply to the panels shall be from electrical sources shown on the Drawings, which may be backed by redundant utility feeds, engine generators, or externally mounted uninterruptible power supplies (UPSs) specified in other sections.

Free-standing vertical PLC panels shall be provided with an interior-mounted UPS to provide backup power to critical loads upon loss of power supply to the panel. UPS-backed power shall be provided to the programmable logic controller CPU, instrument loops, I/O modules (operating and wetting voltages), all network communications devices, and any other load essential to preventing loss of control system function. Backup power for panel interior lights, heaters, and convenience receptacles is not required. UPSs for free-standing vertical panels shall meet the requirements specified below.

2-1.06.01. UPS for Free-Standing Vertical Panels. Each UPS shall accept incoming 120 volts ac, 60Hz, single-phase utility power, apply surge protection, and supply power to the connected loads. The UPS shall be a double-conversion ("on-line") type to provide a breakless transfer to backup power. In the event of incoming power failure, the UPS shall provide 120 volts ac, 60 Hz, single-phase power to its connected loads by inverting power stored within integral storage batteries. The UPS shall be contained inside the enclosure and supported by a dedicated shelf attached to the backplane or sidewall. The shelf shall be between 12 and 18 inches from the bottom of the enclosure and shall not be directly above any electronic or electromechanical devices.

The UPS shall have at least two integral NEMA 5-15R receptacles for connection of battery-backed loads. Upon restoration of incoming power, the UPS shall recharge the batteries and return its connected loads to the incoming power source. The factory-installed line cord and plug shall not be altered. The UPS output shall be connected by plug and line cord to terminal blocks as necessary to distribute power to loads not having a power cord and plug; all other loads shall be connected directly to the UPS's integral receptacles or to permanently installed receptacles fed from the UPS output.

The UPS shall maintain a temperature-compensated, float charge voltage on the batteries when utility power is available. Overcurrent protection when utility power is available shall be from a circuit breaker internal to the UPS. The UPS shall be intrinsically current-limiting when the unit is on battery.

The UPS shall meet the following requirements.

Capacity, minimum	1000 VA / 700 watts
Filtering and surge Protection (on utility power)	Meets IEEE/ANSI C62.41 Category B (IEEE 587)
Voltage, output (on battery)	120 volts ±3 percent
Voltage, output (on-line)	Nominal ±3 percent
Frequency and waveform, output (on battery)	60 ± 0.3 Hz, true sine-wave
Efficiency, minimum (on-line)	90 percent
Operating environment	0 to 40ºC; 0 to 95 percent relative humidity, non-condensing
Backup time, minimum at half of rated load	10 minutes
Recharge time, maximum to 90 percent of full charge	12 hours

The UPS shall have spare capacity of at least 30 percent based on actual connected loads. The Panel Builder shall advise the Engineer if the UPS capacity needs to be higher than specified above to meet this requirement.

The UPS shall have a visual status indicator for low (or faulty) battery and incoming ac power failure. The UPS shall emit an audible signal when the UPS is operating on battery power. A relay shall be installed within the panel and its coil connected across the UPS input power as a means of providing a contact for remote indication of a power failure condition.

Batteries shall be sealed maintenance-free, gelled electrolyte lead-acid, or valve-regulated, maintenance-free, lead-acid. Flooded-electrolyte type batteries will not be acceptable.

The UPS shall be APC “Smart-UPS”, Emerson/Liebert “GXT1000MT”, Toshiba “1000 Series”, or equal.

2-1.06.02. Rack-Mounted Uninterruptible Power Supply (UPS). Not used.

2-1.07. Device Tag Numbering System. All devices shall be provided with permanent identification tags. The tag numbers shall agree with the Instrument Device Schedule and with the supplier's equipment drawings. All field-mounted transmitters and devices shall have stamped stainless steel identification tags. Panel, subpanel, and rack-mounted devices shall have laminated phenolic identification tags securely fastened to the device. Hand-lettered labels or tape labels will not be permitted.

2-1.08. Nameplates. Nameplates shall be provided on the face of the panel or on the individual device. Panel nameplates shall have legends and approximate dimensions as indicated on the Drawings and shall be made of laminated phenolic material having engraved letters approximately 3/16 inch [5 mm] high extending through the whit face into the black layer. Nameplates shall be secured firmly to the panel. Panel face nameplates do not replace the requirement for device identification tags as specified under the Device Tag Numbering System paragraph.

2-1.09. Indicating Light Color Designations. Indicating lights are specified in the Panel Mounted Instruments section. Indicating lights shall be colored as shown in the following table unless indicated otherwise on the Drawings, in other specification sections, or in the instrument device schedule.

Color	Meaning
Red	Associated equipment or device is “running, “ “open,” or is in an “unsafe” state or position
Green	Associated equipment or device is “stopped,” “closed,” or is in a “safe” state or position
Yellow or Amber	Associated equipment or device has “failed” or a process alarm condition is present or imminent.
White	All other conditions not defined above.

2-1.10. Painting. Interior and exterior surfaces of all indoor located carbon-steel panels shall be thoroughly cleaned and painted with rust inhibitive (universal) primer. The panel interior shall be painted white with the manufacturer's standard coating. All pits and blemishes in the exterior surface shall be filled. Exterior surfaces shall be painted with one or more finish coats of the manufacturer's standard coating. Finish coats shall have a dry film thickness of at least 4 mils [100 mm]. Color shall be white. All outdoor located enclosures shall be 316 stainless steel construction with exterior panel and sun-shield surfaces powder-coated white color. One quart [1 liter] of touch-up paint shall be furnished with the panels.

2-1.11. Panel-Mounted Instruments. Instruments, power supplies, pilot devices, and appurtenances mounted within or on the face of the panel shall meet the

requirements specified in Section 13561, Panel Mounted Instruments, for those items unless noted otherwise herein, on the Drawings or, if applicable, within the referring equipment specification section.

2-1.12. Factory Test. Panels shall be factory tested electrically and pneumatically by the panel fabricator before shipment.

2-2. FREESTANDING VERTICAL PANELS. The following paragraphs specify the freestanding vertical panels:

2-2.01. Construction. Panel construction shall be an indoor, dusttight, completely enclosed cubicle formed from steel structural members and steel plates. The base shall be formed of steel channels, with flanges extending upwards. The base shall be provided with 1/2 inch [12.5 mm] diameter holes at 12 inch [300 mm] centers so that the base can be bolted to the concrete equipment base. Welds, seams, and edges on all exposed surfaces shall be ground smooth. Suitable lifting facilities shall be provided for handling and shipment. Enclosures located in outdoor / wet locations shall be constructed of 316 stainless steel. Outdoor located enclosures and associated sunshields shall have exterior surfaces powder-coated white.

2-2.02. Structure. Panel structure shall be suitably braced and of sufficient strength to support all equipment mounted on or within, to withstand handling and shipment, to remain in proper alignment, and to be rigid and freestanding. Top, sides, and back shall be fabricated from USS 10 gage [3.42 mm thick] or heavier carbon steel sheets, with stationary back suitable for back to wall installation, or designed for rear access with hinged back doors. Doors shall not be greater than 24 inches [600 mm] wide or spaced not greater than 36 inches [900 mm] center to center. Rear access doors shall be fabricated from USS 14 gage [1.9 mm thick] or heavier carbon steel.

2-2.03. Panel Front. The front shall be a hinged door, or doors, with mounted instruments and control devices, fabricated from USS 10 gage [3.42 mm thick] carbon steel sheet and suitably braced and supported to maintain alignment. Panels with hinged fronts shall be of sufficient width to permit door opening without interference with rear projection of flush mounted instruments.

2-2.04. Doors. Doors shall be essentially full height, having turned back edges and additional bracing to ensure rigidity and prevent sagging. Doors shall be mounted with strong, continuous, piano type hinges. Positive latches, acting from a common door handle, shall hold doors securely compressed at top, side, and bottom against rubber gaskets.

2-2.05. Mounted Instruments. The front shall be stationary, with mounted instruments and control devices, fabricated from 3/16 inch [5 mm] carbon steel plate. Panel fronts shall be suitably reinforced between mounting cutouts and

drilling to support instruments and devices without deformation and shall be free from waves and other imperfections, Panel fronts shall be recessed at the base. Adjoining panel sections shall be accurately shop fitted to assure satisfactory assembly in the field.

2-2.05.01. Instrument Arrangement. Panel instruments and control devices shall be arranged in a logical configuration for the plant operators. The centerline of recorders shall be within 3 feet [900 mm] and 5'-9" [1.75 m] above the base of the panel for convenient reading and chart replacement. Control switches shall be within 6 feet [1.83 m] and 2'-6" [760 mm] above the base of the panel. Indicators may be located within 2'-6" [760 mm] and 6'-6" [1.98 m] above the base of the panels.

2-2.06. Conduit Entrance. The bottom shall be open, and components shall be arranged for external wiring conduit and piping to enter from below.

2-2.07. Size and Arrangement. Panel dimensions and general instrument arrangement shall be as indicated on the Drawingsor in the attached equipment schedules.

2-2.08. Interior Lighting. Illumination of panel interiors shall be provided by ceiling mounted lamp fixtures spaced at approximately 2'-6" [760 mm] and near the door. Fixtures shall be nominal 40-watt LED type, with a common "On-Off" switch near each end door. Duplex-grounded receptacles shall be provided for service and maintenance tools at spacing not greater than 5 feet [1.52 m] throughout the length of a panel. The lighting and receptacle circuit shall be fused separately from the instrumentation systems.

2-3. FILTER CONSOLES. Not used.

2-4. WALL-MOUNTED CABINETS. Not used.

2-5. FIBER OPTIC TERMINATION CABINETS (FOTC). Not used.

2-6. FREESTANDING EIA 19-INCH RACK ENCLOSURES. Not used.

2-7. DATA SERVER ENCLOSURES. Not used.

2-8. WALL MOUNTED INSTRUMENT SUBPANELS. Not used.

2-9. CONTROL SYSTEM CONSOLES AND ENCLOSURES. Not used.

2-10. CONTROL SYSTEM FURNITURE. Not used.

PART 3 - EXECUTION

3-1. GENERAL INSTALLATION REQUIREMENTS. Installation requirements are specified in the Instrumentation and Control System section. In addition, equipment furnished under this section shall conform to the following manufacturing stipulations.

3-1.01. Piping. Not used.

3-1.02. Wiring. All wiring shall be grouped or cabled and firmly supported inside the panel. Wiring shall be bundled in groups and routed in Panduit or similar nonmetallic slotted ducts. Ducts shall be readily accessible within the panel with removable covers and shall have a space of at least 40 percent of the depth of the duct available for future use after installation is complete and all field wiring installed. Sufficient space shall be provided between cable groups or ducts and terminal blocks for easy installation or removal of cables.

End of Section

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Equipment Schedule 13570-S01

FREESTANDING VERTICAL PANELS

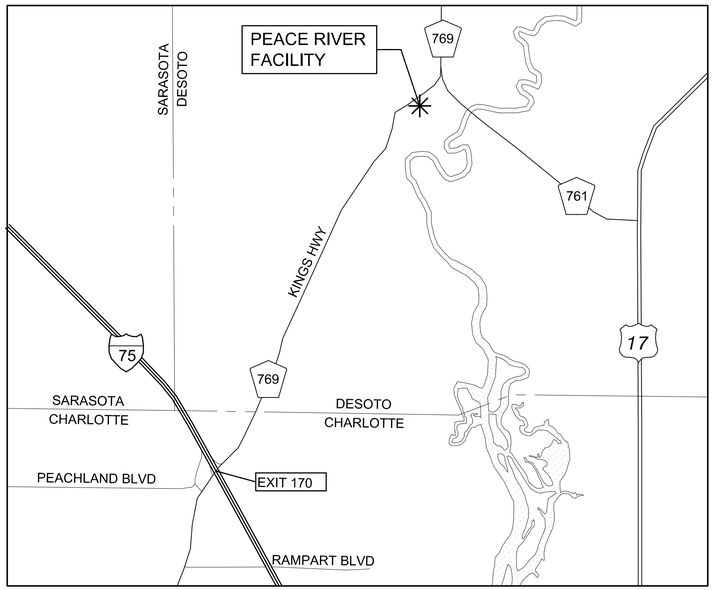
1.000	**General**					
1.010	Specification Section 13570					
2.000	**Freestanding Vertical Panels**					
2.010	Tag Number/Panel ID	30-CP-08				
2.020	Structure					
	Back to wall					
	Hinged rear doors					
	60 inches wide					
	36 inches center to center					
	Hinged front door	X				
	Fixed front					
	Recessed base	X				
2.030	Conduit entrance					
	Bottom open	X				
	Removable top plates					
3.000	**Exceptions, Clarifications, and Comments**					
3.010	Interior-mounted UPS required	X				
	Exterior dimensions (H x W x D)	72”x60”x24” minimum				
	NEMA 4X	X				
	316 Stainless Steel	X				

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PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

PLANT 4 FILTER PC PANEL (30-CP-08)





Peace River Manasota Regional Water Supply Authority

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JANUARY 2023

B&V PROJECT NUMBER: 413293

DEMOLITION/ELECTRICAL/INSTRUMENTATION AND CONTROLS
LAWRENCE BROUILLETTE
NO. 57973

BLACK & VEATCH

Black & Veatch Corporation
4415 Metro Parkway, Suite 200
Fort Myers, Florida 33916 Certificate No. 8132

DWG: C:\pw_working\pw_americas_2\d168891\G-00-001.dwg USER: fau37423
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ISA-5.3 LOOP SYMBOLS

DISTRIBUTED CONTROL/SHARED DISPLAY SYMBOLS

- NORMALLY ACCESSIBLE TO OPERATOR
- AUXILLIARY OPERATOR'S INTERFACE DEVICE
- NOT NORMALLY ACCESSIBLE TO OPERATOR

COMPUTER SYMBOLS

- NORMALLY ACCESSIBLE TO OPERATOR
- NOT NORMALLY ACCESSIBLE TO OPERATOR

LOGIC AND SEQUENTIAL CONTROL SYMBOLS

- GENERAL LOGIC
- DISTRIBUTED INTERCONNECTING CONTROLLER, NOT NORMALLY ACCESSIBLE TO OPERATOR
- DISTRIBUTED INTERCONNECTING CONTROLLER, NORMALLY ACCESSIBLE TO OPERATOR
- COMPUTATION/SIGNAL CONDITIONING
- SYSTEM/SOFTWARE/NETWORK LINK

DEVICE SYMBOLS

- RELAY COIL
- CONTACT, N.O.
- CONTACT, N.C.
- TIMER RELAY COIL
- TIME-ON DELAY, N.O. CONTACT
- TIME-ON DELAY, N.C. CONTACT
- TIME-OFF DELAY, N.O. CONTACT
- TIME-OFF DELAY, N.C. CONTACT
- PUSH BUTTON, N.O. CONTACT
- PUSH BUTTON, N.C. CONTACT
- MUSHROOM HEAD PUSH BUTTON, N.O. CONTACT
- MUSHROOM HEAD PUSH BUTTON, N.C. CONTACT
- SELECTOR SWITCH, N.O. CONTACT
- SELECTOR SWITCH, N.C. CONTACT
- LIMIT SWITCH, N.O. CONTACT
- LIMIT SWITCH, N.C. CONTACT
- PRESSURE SWITCH, N.O. CONTACT

DEVICE SYMBOLS

- TEMPERATURE SWITCH, N.O. CONTACT
- TEMPERATURE SWITCH, N.C. CONTACT
- FLOW SWITCH, N.O. CONTACT
- FLOW SWITCH, N.C. CONTACT
- FLOAT SWITCH, N.O. CONTACT
- FLOAT SWITCH, N.C. CONTACT
- FOOT SWITCH, N.O. CONTACT
- FOOT SWITCH, N.C. CONTACT
- TOGGLE SWITCH, N.O. CONTACT
- TOGGLE SWITCH, N.C. CONTACT
- THERMAL OVERLOAD
- SOLENOID
- HORN
- PILOT LIGHT
- PILOT LIGHT, PUSH TO TEST
- FUSE
- CIRCUIT BREAKER

DEVICE SYMBOLS

- ISOLATION TRANSFORMER
- CONTROL POWER TRANSFORMER
- CURRENT TRANSFORMER
- POTENTIOMETER
- RESISTOR
- CAPACITOR, ELECTROLYTIC
- DIODE
- ZENER DIODE
- BATTERY
- TERMINAL BLOCK, "PTB"
- TERMINAL BLOCK, "AI/AO"
- TERMINAL BLOCK, "DI/DO"
- TERMINAL BLOCK, OTHER (SPECIFY)
- TERMINAL BLOCK, OTHER (SPECIFY)

WIRE SYMBOLS

- CONDUCTORS, WITH JUNCTION
- CONDUCTORS, NOT CONNECTED
- SHIELDED CABLE
- TWISTED-PAIR CABLE
- FIELD WIRING

ABBREVIATIONS

AIT	ANALYSIS INDICATING TRANSMITTER
AFD	ADJUST FREQUENCY DRIVE
BC	BYPASS CONTACTOR
BFI	BLOWN FUSE INDICATOR
C	CONTACTOR
CB	CIRCUIT BREAKER
CPT	CONTROL POWER TRANSMFORMER
CR	CONTROL RELAY
CRI	CONTROL RELAY, INTRINSIC
CRL	CONTROL RELAY, LATCH
DFR	DRIVE FAIL RELAY
DI	DIGITAL INDICATOR
DUP	DUPLEXOR
DRR	DRIVE RUN RELAY
DSC	DISCONNECT SWITCH
ETM	ELAPSED TIME METER
FIT	FLOW INDICATING TRANSMITTER
FS	FLOAT SWITCH
FSR	FLOAT SWITCH RELAY
FU	FUSE
GRD	GROUND
HS	HAND SWITCH
IC	ISOLATION CONTACTOR
ISO	SIGNAL ISOLATOR/BOOSTER
LT	PILOT LIGHT
LIT	LEVEL INDICATING TRANSMITTER
LS	LIMIT SWITCH
M	MOTOR STARTER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MSP	MAIN SURGE PROTECTOR
OL	OVERLOAD
PB	PUSH BUTTON
PDB	POWER DISTRIBUTION BLOCK
PIT	PRESSURE INDICATING TRANSMITTER
RIO	REMOTE I/O PANEL
POT	POTENTIOMETER
PM	PHASE MONITOR
PS	POWER SUPPLY
RCR	RUN COMMAND RELAY
RES	RESISTOR
S	SWITCH
SP	SURGE PROTECTOR
SS	SELECTOR SWITCH
SSRV	SOLID STATE REDUCED VOLTAGE STARTER
TB	TERMINAL BOARD, TERMINAL BLOCK
TC	TIME CLOCK
TR	TIME DELAY RELAY
TS	TEMPERATURE SWITCH
VFD	VARIABLE FREQUENCY DRIVE
XFMR	TRANSFORMER
ZS	LIMIT SWITCH

BLACK & VEATCH

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PEACE RIVER MANASOTA REGIONAL WATER AUTHORITY

TRAINS 7 & 8 REHABILITATION

REVISIONS AND RECORD OF ISSUE

DESIGNED:	RSF
DETAILED:	
CHECKED:	
APPROVED:	
DATE:	NOVEMBER 2022
PROJECT NO.:	413293

INSTRUMENATION AND CONTROLS

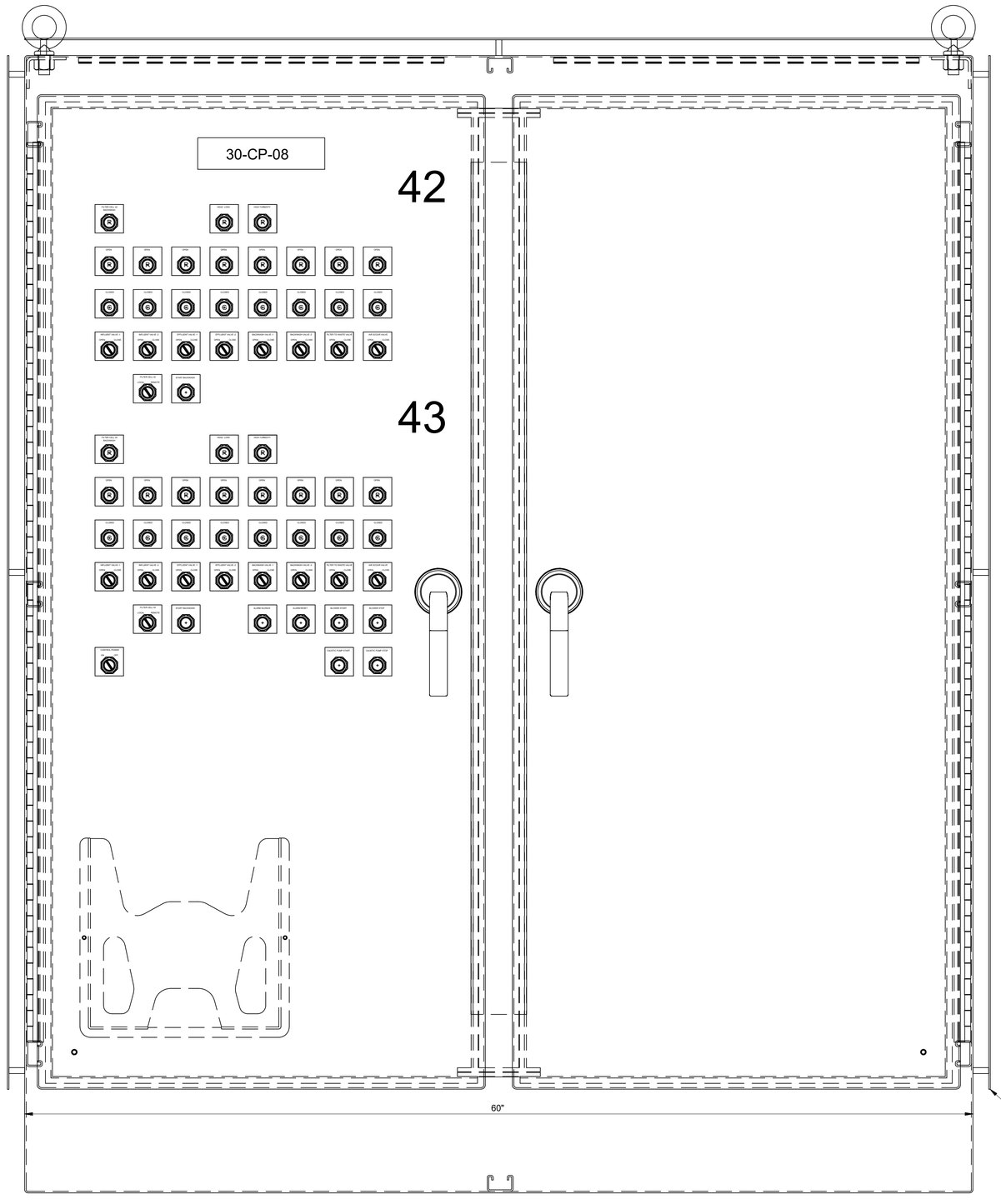
SYMBOLS AND ABBREVIATIONS

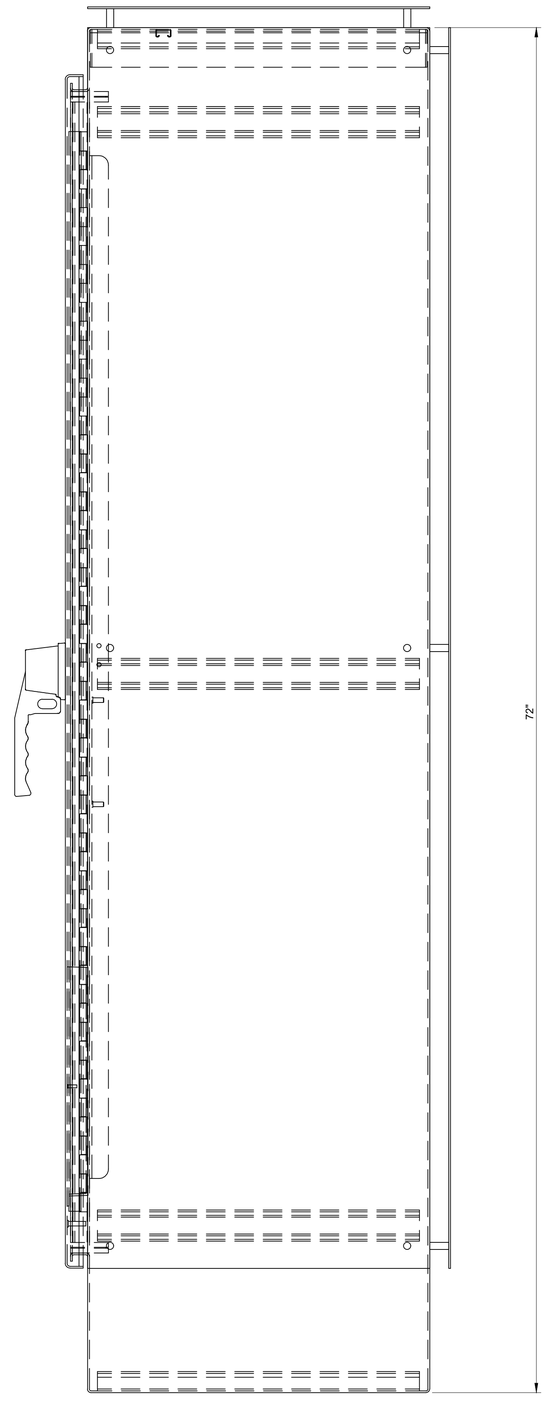
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OF -

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TRAINS 7 & 8 FILTER PLC
PANEL 30-CP-08

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PEACE RIVER
MANASOTA
REGIONAL WATER
AUTHORITY

TRAINS 7 & 8
REHABILITATION

**PRELIMINARY
NOT FOR
CONSTRUCTION**

REVISIONS AND RECORD OF ISSUE

DESIGNED:	RSF
DETAILED:	LTS
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APPROVED:	
DATE:	JANUARY 2023
PROJECT NO.:	413293

INSTRUMENATION AND
CONTROLS

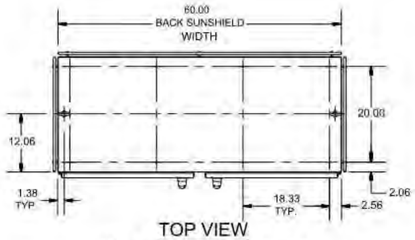
PLANT 4 FILTER PC PANEL
ELEVATIONS

I-30-201 | OF

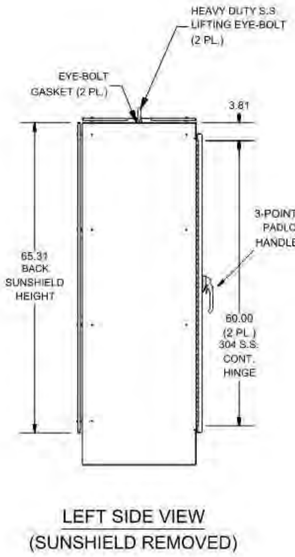
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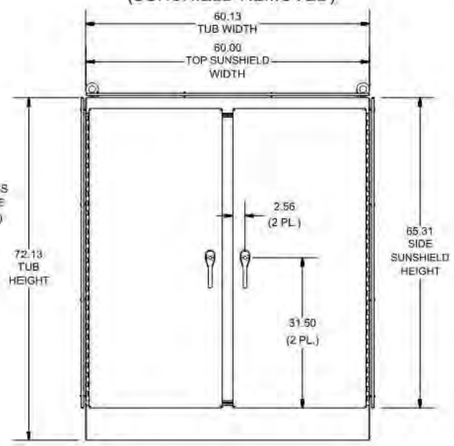
NOTES:
1. ALL DIMENSIONS ARE FROM OUTSIDE UNLESS OTHERWISE NOTED (I/S).
2. ALL SEAMS ARE CONTINUOUSLY WELDED & GROUND SMOOTH.
3. GROUND STUDS PROVIDED ON DOORS & TUB OF ENCLOSURE.
4. ENCLOSURE FABRICATED FROM 10 GA. 316 STAINLESS STEEL.
5. 1"X1-5/8" S.S. UNISTRUT PROVIDED FOR MOUNTING OPTIONAL SUB-PANEL(S).
   (OPTIONAL SUB-PANEL(S) ARE NOT INCLUDED & MUST BE ORDERED SEPARATLEY)
6. FINISH: EXTERIOR- STANDARD GRAINED FINISH.
   INTERIOR- STANDARD COMMERCIAL FINISH.
   SUNSHIELDS - WHITE POLYESTER POWDER (SMOOTH)
7. ENCLOSURE SEALS WITH FOAM-IN-PLACE GASKET.
8. ENCLOSURE IS RATED TYPE 4X.



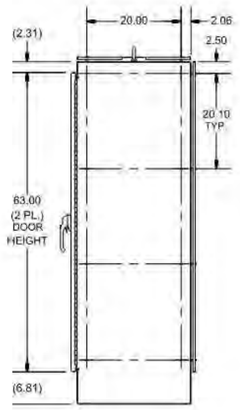
TOP VIEW
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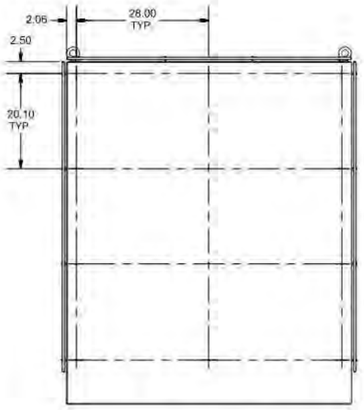
LEFT SIDE VIEW
(SUNSHIELD REMOVED)



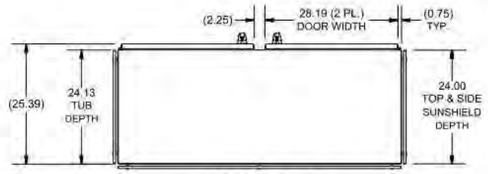
FRONT VIEW



RIGHT SIDE VIEW
(SUNSHIELD REMOVED)



BACK VIEW
(SUNSHIELD REMOVED)



BOTTOM VIEW

ENCLOSURE DETAIL
NO SCALE

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AUTHORITY

TRAINS 7 & 8
REHABILITATION

REVISIONS AND RECORD OF ISSUE

DESIGNED:	RSF
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APPROVED:	
DATE:	NOVEMBER 2022
PROJECT NO.:	413293

INSTRUMENATION AND CONTROLS

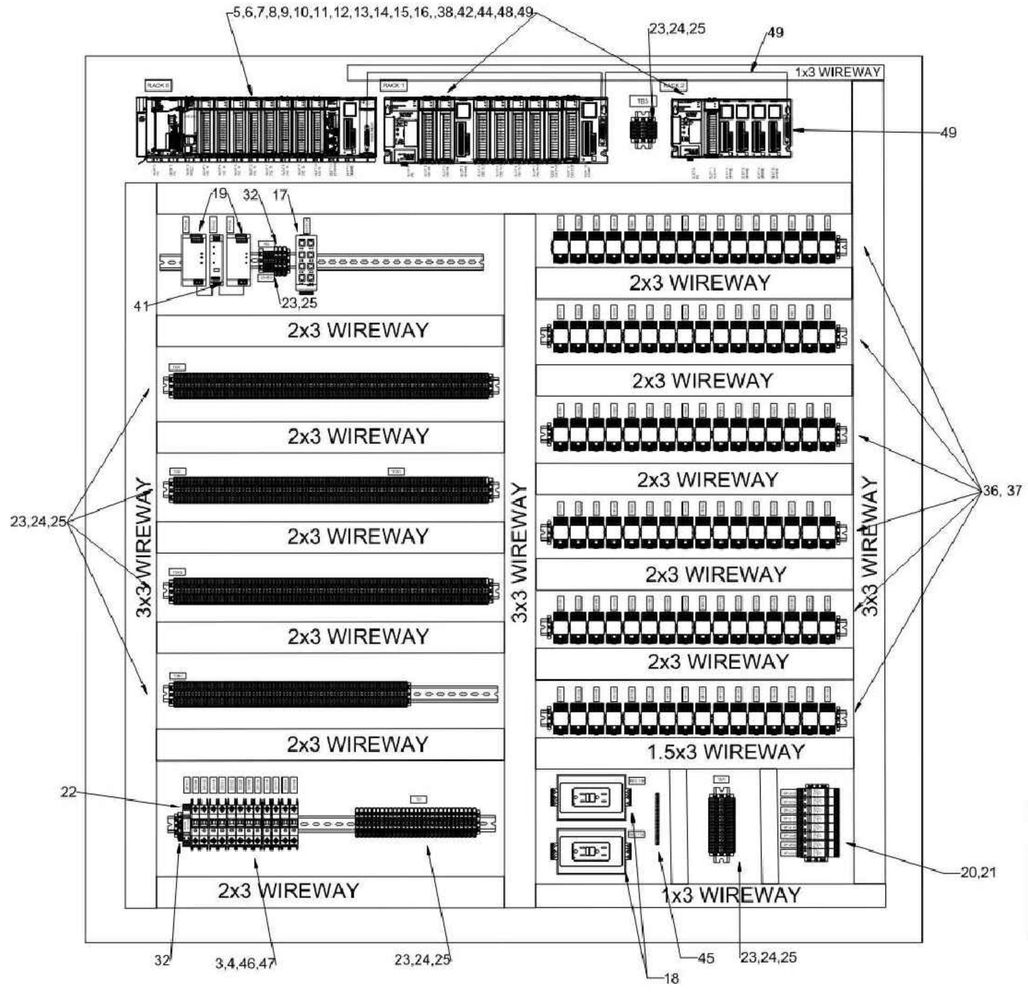
ENCLOSURE PANEL
30CP08 DETAILS

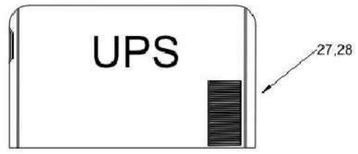
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OF
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INSTRUMENATION AND CONTROLS

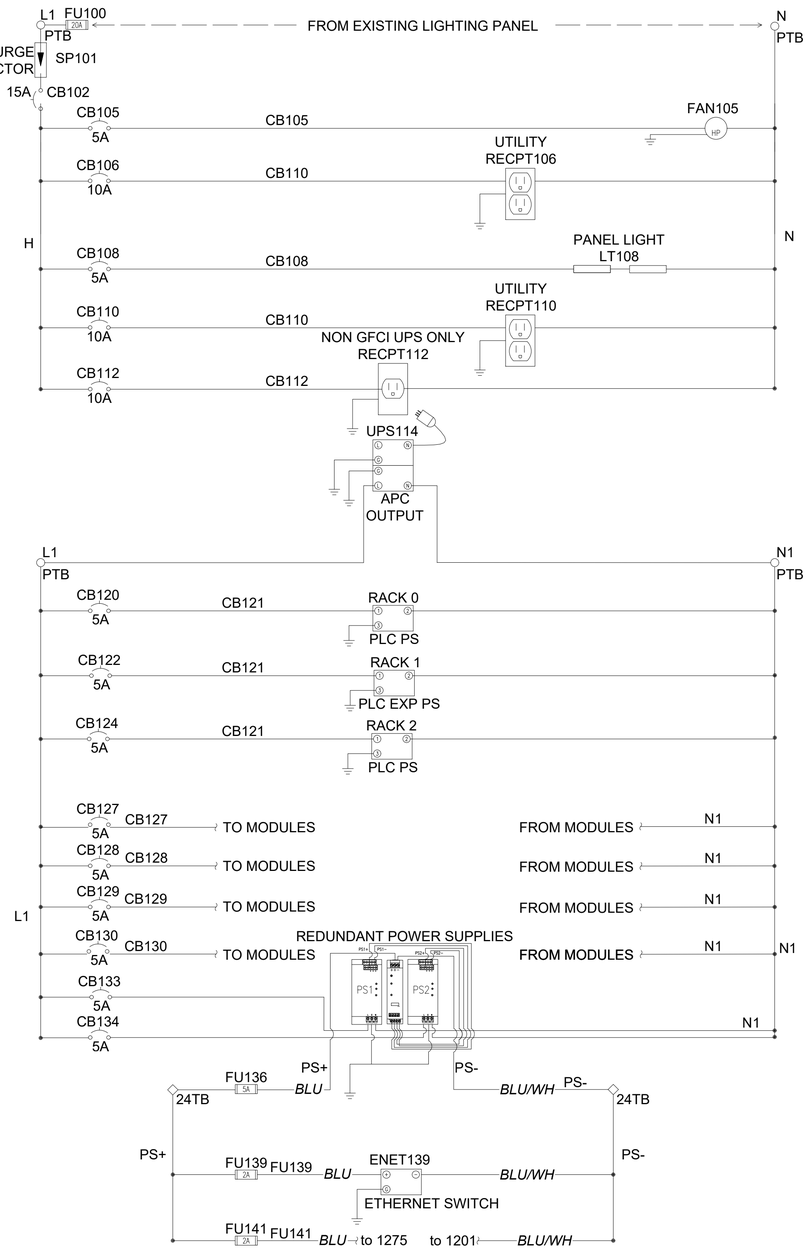
BACK PANEL DETAILS

I-99-502

OF
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D11002



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TRAINS 7 & 8 REHABILITATION

REVISIONS AND RECORD OF ISSUE

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APPROVED:	
DATE:	JANUARY 2023
PROJECT NO.:	413293

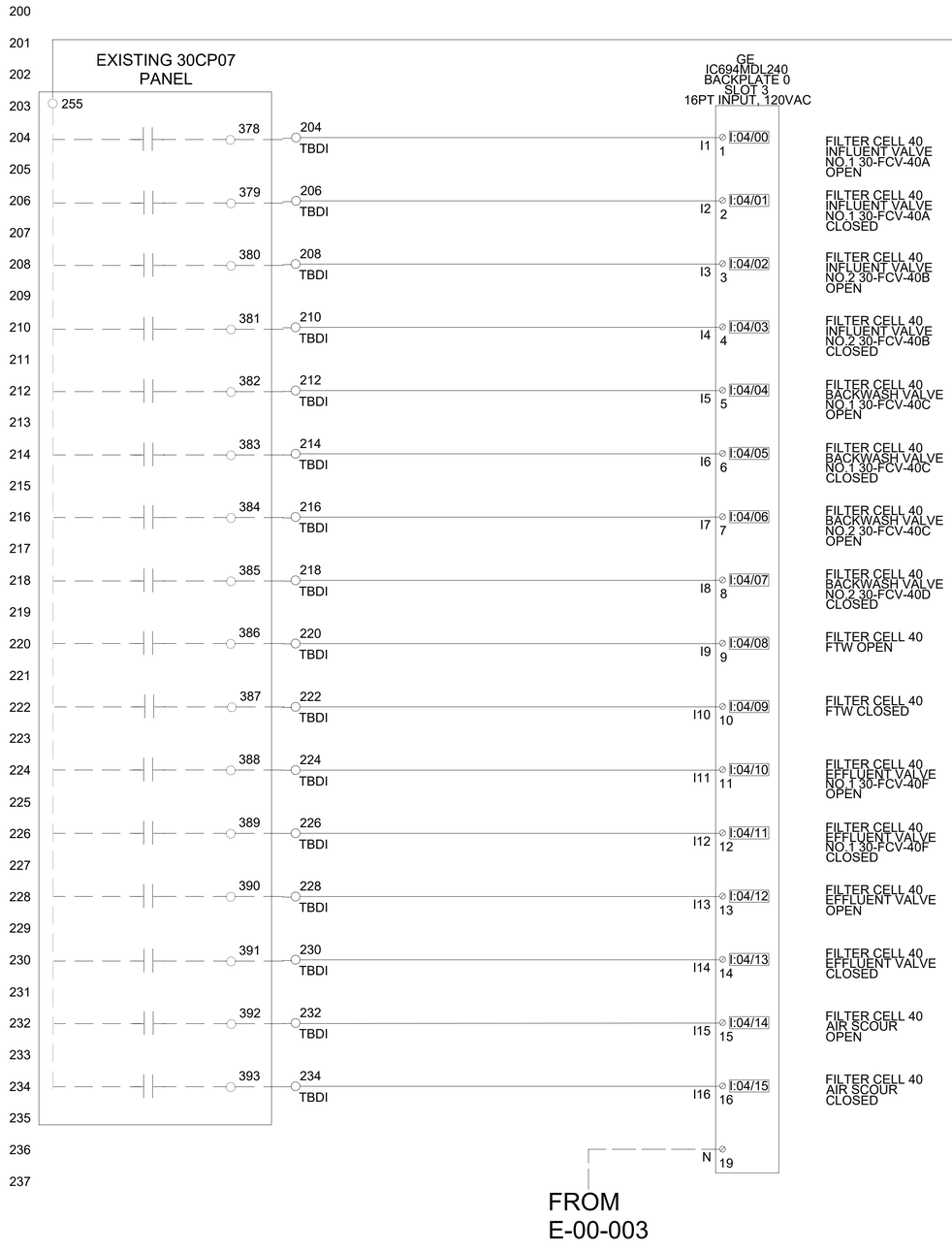
ELECTRICAL DIAGRAMS

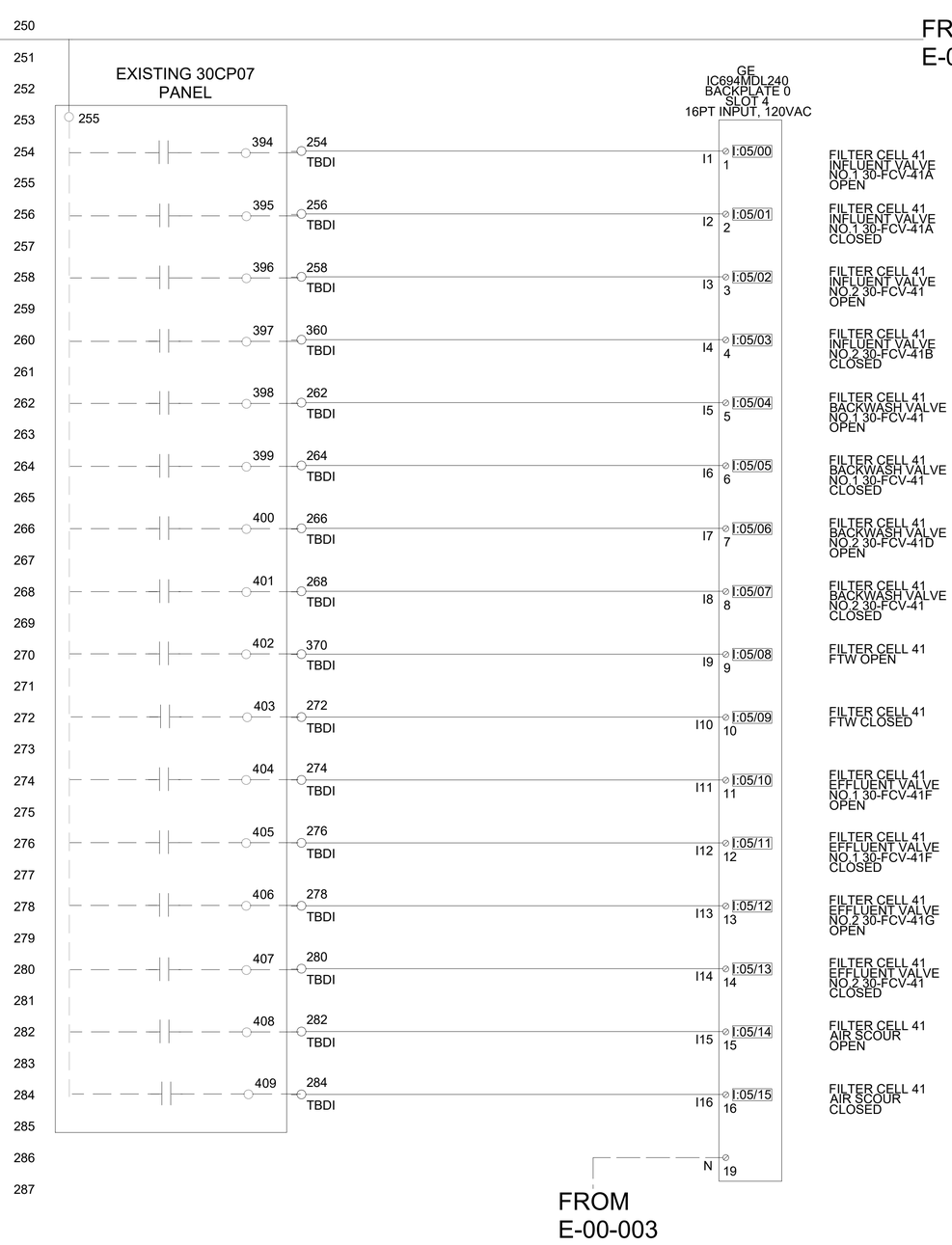
WIRING SCHEMATIC

E-00-003 OF

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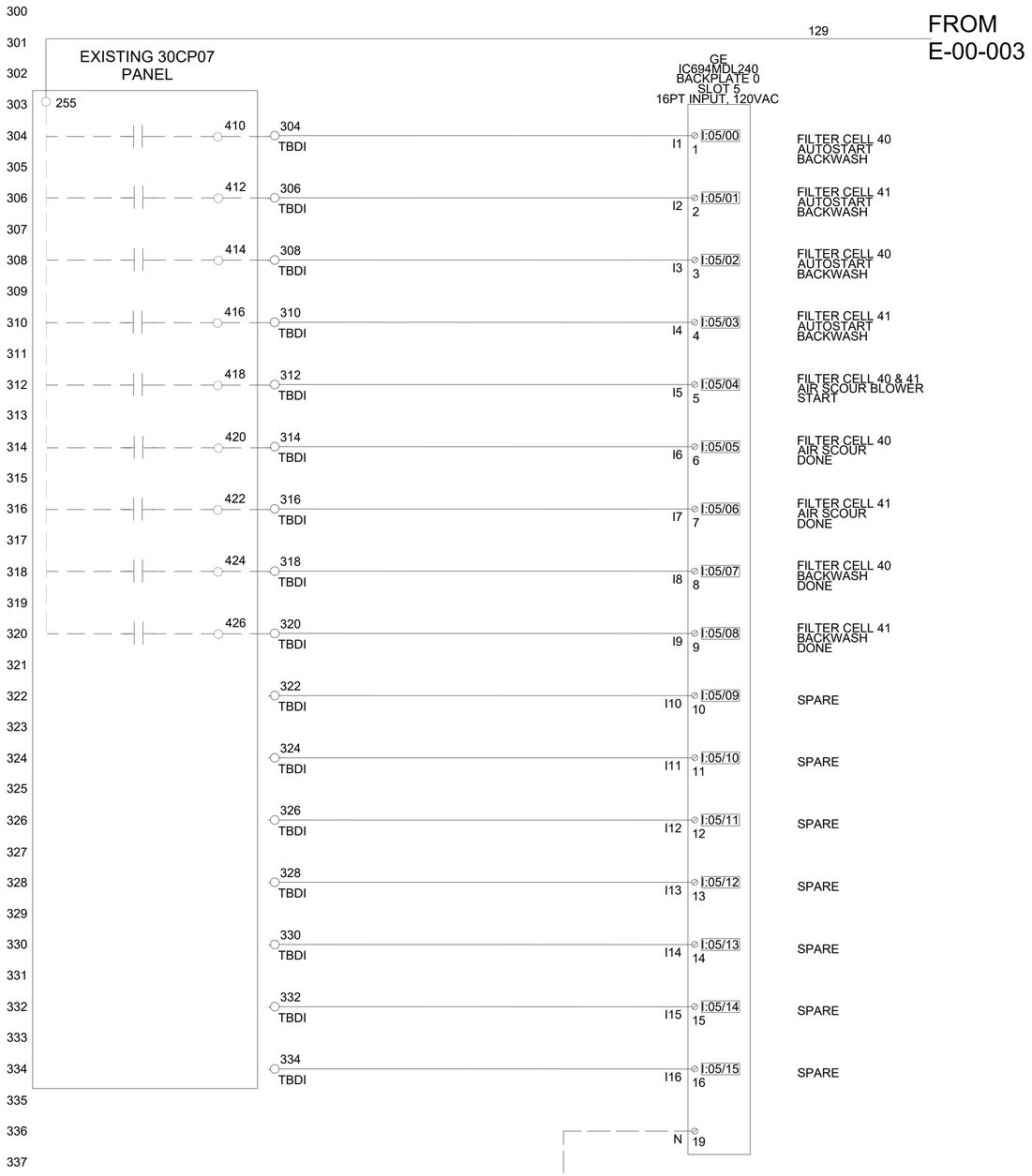
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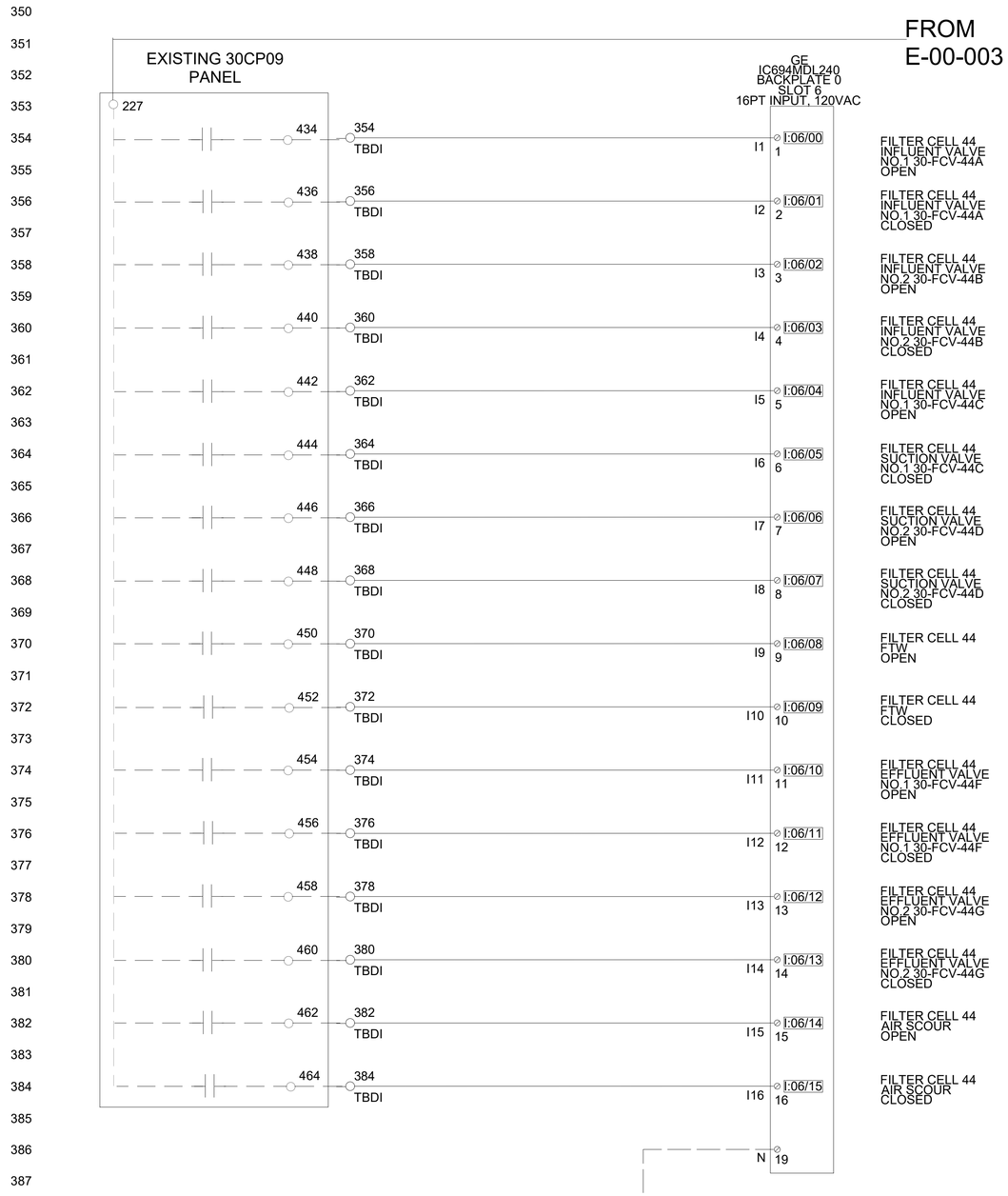
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ELEVATIONS SLOTS 3 & 4
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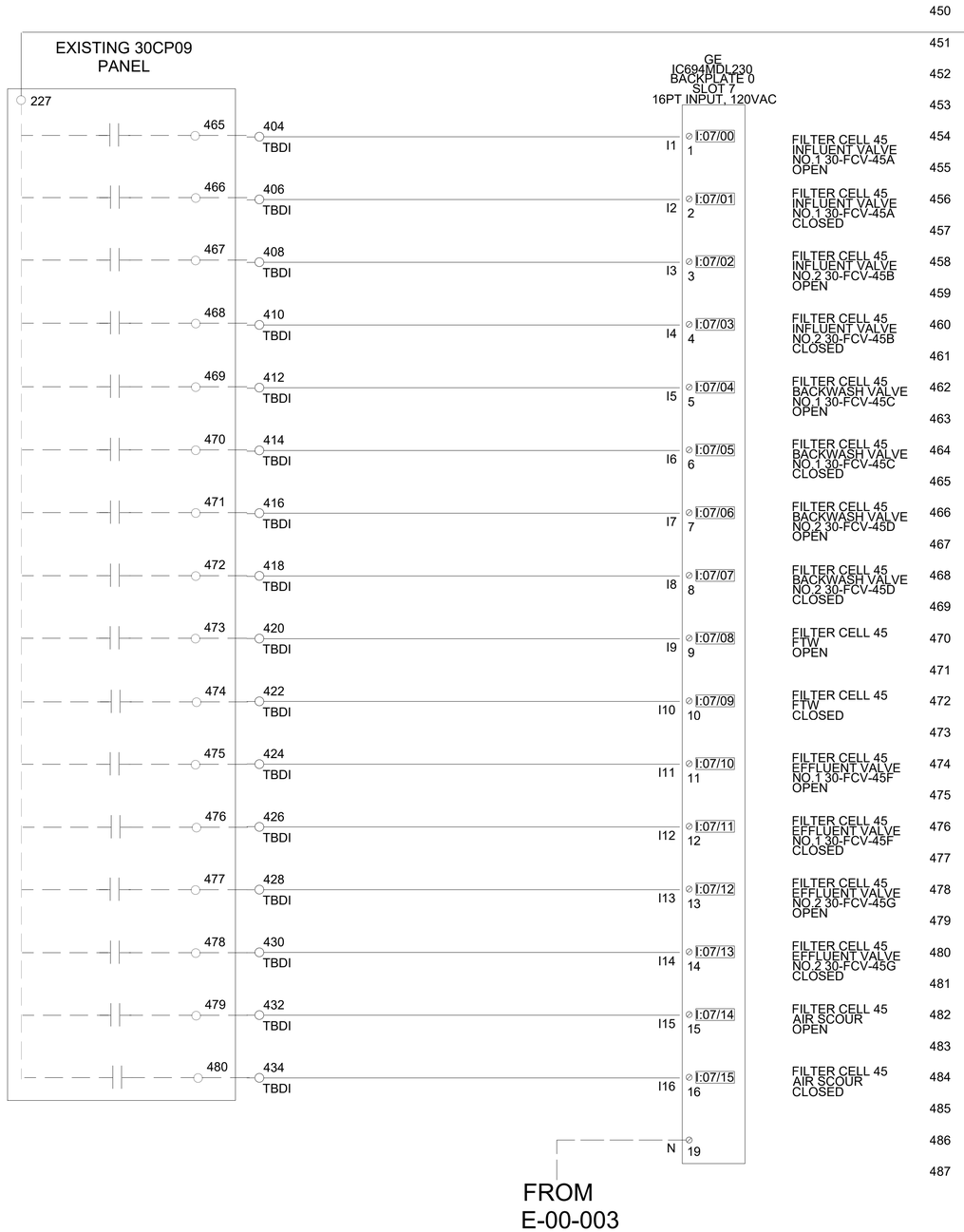
ELECTRICAL DIAGRAMS

PANEL RACK NO. 0
ELEVATIONS SLOTS 5 & 6
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E-00-005 OF

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TRAINS 7 & 8 REHABILITATION

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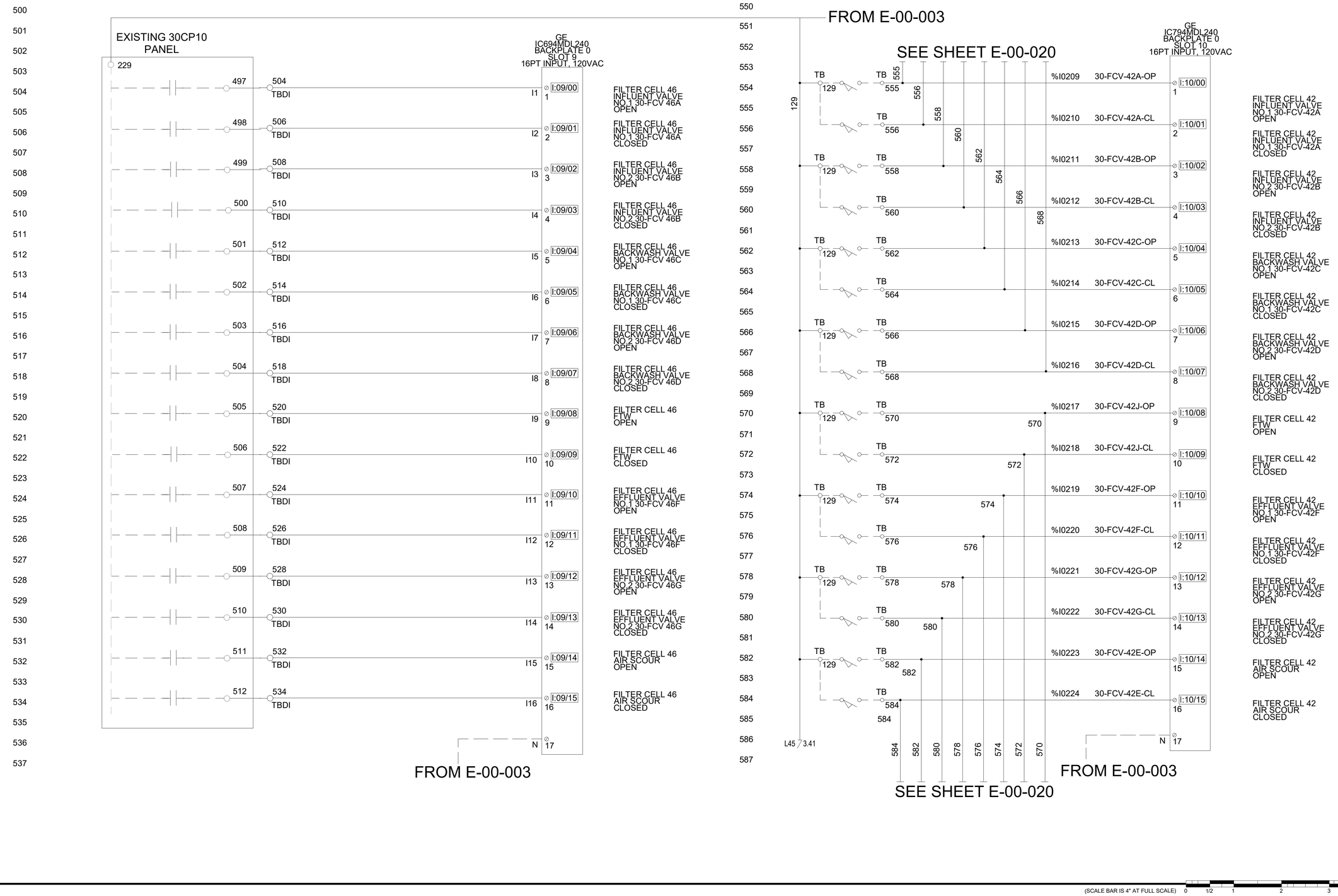
ELECTRICAL DIAGRAMS

PANEL RACK NO. 0
ELEVATIONS SLOTS 7 & 8
(DIGITAL INPUTS)

E-00-006 OF

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TRAINS 7 & 8 REHABILITATION

REVISIONS AND RECORD OF ISSUE

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DATE:	JANUARY 2023
PROJECT NO.:	413293

ELECTRICAL DIAGRAMS

PANEL RACK NO. 0
ELEVATIONS SLOTS 9 & 10
(DIGITAL INPUTS)

E-00-007 OF

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SLOT 11
ETHERNET MODULE

INTENTIONALLY LEFT BLANK

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AUTHORITY

TRAINS 7 & 8
REHABILITATION

REVISIONS AND RECORD OF ISSUE

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PROJECT NO.:	413293

ELECTRICAL DIAGRAMS

PANEL RACK NO. 0
ELEVATIONS SLOTS 11 & 12
(DIGITAL INPUTS)

E-00-008 | OF

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D1:1000

(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4

FROM
E-00-003

SEE SHEET E-00-020

GE
IC794MDL240
BACKPLATE 1
SLOT 1
16PT INPUT, 120VAC

TB 129 → TB 705	I:01/00	I1 1	FILTER CELL 43 INFLUENT VALVE NO.1 30-FCV-43A OPEN
TB 129 → TB 706	I:01/01	I2 2	FILTER CELL 43 INFLUENT VALVE NO.1 30-FCV-43A CLOSED
TB 129 → TB 708	I:01/02	I3 3	FILTER CELL 43 INFLUENT VALVE NO.2 30-FCV-43B OPEN
TB 129 → TB 710	I:01/03	I4 4	FILTER CELL 43 INFLUENT VALVE NO.2 30-FCV-43B CLOSED
TB 129 → TB 712	I:01/04	I5 5	FILTER CELL 43 BACKWASH VALVE NO.1 30-FCV-43C OPEN
TB 129 → TB 714	I:01/05	I6 6	FILTER CELL 43 BACKWASH VALVE NO.1 30-FCV-43C CLOSED
TB 129 → TB 716	I:01/06	I7 7	FILTER CELL 43 BACKWASH VALVE NO.2 30-FCV-43D OPEN
TB 129 → TB 718	I:01/07	I8 8	FILTER CELL 43 BACKWASH VALVE CLOSED
TB 129 → TB 720	I:01/08	I9 9	FILTER CELL 43 FTW OPEN
TB 129 → TB 722	I:01/09	I10 10	FILTER CELL 43 FTW CLOSED
TB 129 → TB 724	I:01/10	I11 11	FILTER CELL 43 EFFLUENT VALVE NO.1 30-FCV-43F OPEN
TB 129 → TB 726	I:01/11	I12 12	FILTER CELL 43 EFFLUENT VALVE NO.1 30-FCV-43F CLOSED
TB 129 → TB 728	I:01/12	I13 13	FILTER CELL 43 EFFLUENT VALVE NO.2 30-FCV-43G OPEN
TB 129 → TB 730	I:01/13	I14 14	FILTER CELL 43 EFFLUENT VALVE NO.2 30-FCV-43G CLOSED
TB 129 → TB 732	I:01/14	I15 15	FILTER CELL 43 AIR SCOUR OPEN
TB 129 → TB 734	I:01/15	I16 16	FILTER CELL 43 AIR SCOUR CLOSED
N		19	

FROM E-00-003

SEE SHEET E-00-020

FROM
E-00-003

GE
IC794MDL240
BACKPLATE 1
SLOT 2
16PT INPUT, 120VAC

PB604 %I0241 CELL-42 AUTOSTART BACKWASH 755	I:02/00	I1 1	FILTER CELL 42 AUTOSTART BACKWASH
3 4 PB605 %I0242 CELL-43 AUTOSTART BACKWASH 756	I:02/01	I2 2	FILTER CELL 43 AUTOSTART BACKWASH
SHEET E-19 RUNG 564 %I0243 CELL-42 AUTOMODE 758	I:02/02	I3 3	FILTER CELL 42 AUTOMODE BACKWASH
SHEET E-19 RUNG 577 %I0244 CELL-43 AUTOMODE 760	I:02/03	I4 4	FILTER CELL 43 AUTOMODE BACKWASH
PB611 %I0245 CELL-42&43 MANUAL BWR START 762	I:02/04	I5 5	FILTER CELL 42 & 43 AIR SCOUR BLOWER START
TR556 556 %I0246 CELL-42 AIRSCOUR DONE 764	I:02/05	I6 6	FILTER CELL 42 AIR SCOUR DONE
TR569 569 %I0247 CELL-43 AIRSCOUR DONE 766	I:02/06	I7 7	FILTER CELL 43 AIR SCOUR DONE
TR561 561 %I0248 CELL-42 BACKWASH DONE 768	I:02/07	I8 8	FILTER CELL 42 BACKWASH DONE
TR574 574 %I0249 CELL-43 BACKWASH DONE 770	I:02/08	I9 9	FILTER CELL 43 BACKWASH DONE
TB 129 → TB %I0250 722	I:02/09	I10 10	CONTROL POWER ON
TB 129 → TB %I0251 774	I:02/10	I11 11	LOCAL CAUSTIC PUMP STOP PUSH BUTTON
TB 129 → TB %I0252 776	I:02/11	I12 12	LOCAL CAUSTIC PUMP START PUSH BUTTON
TB 129 → TB %I0253 778	I:02/12	I13 13	SPARE
PB629 %I0254 CELL-42&43 MANUAL BWR STOP 780	I:02/13	I14 14	FILTER CELL 42 & 43 MANUAL BLOWER STOP
TB 129 → TB %I0255 30-BL-47 BWR RUN 782 782	I:02/14	I15 15	BLOWER RUN
TB 129 → TB %I0256 30-BL-46 BWR RUN 784 784	I:02/15	I16 16	BLOWER RUN
N		19	

FROM E-00-003

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TRAINS 7 & 8
REHABILITATION

REVISIONS AND RECORD OF ISSUE

DESIGNED:	LJB
DETAILED:	AIP
CHECKED:	
APPROVED:	
DATE:	JANUARY 2023
PROJECT NO.:	413293

ELECTRICAL DIAGRAMS

PANEL RACK NO. 1
ELEVATIONS SLOTS 1 & 2
(DIGITAL INPUTS)

E-00-009 | OF

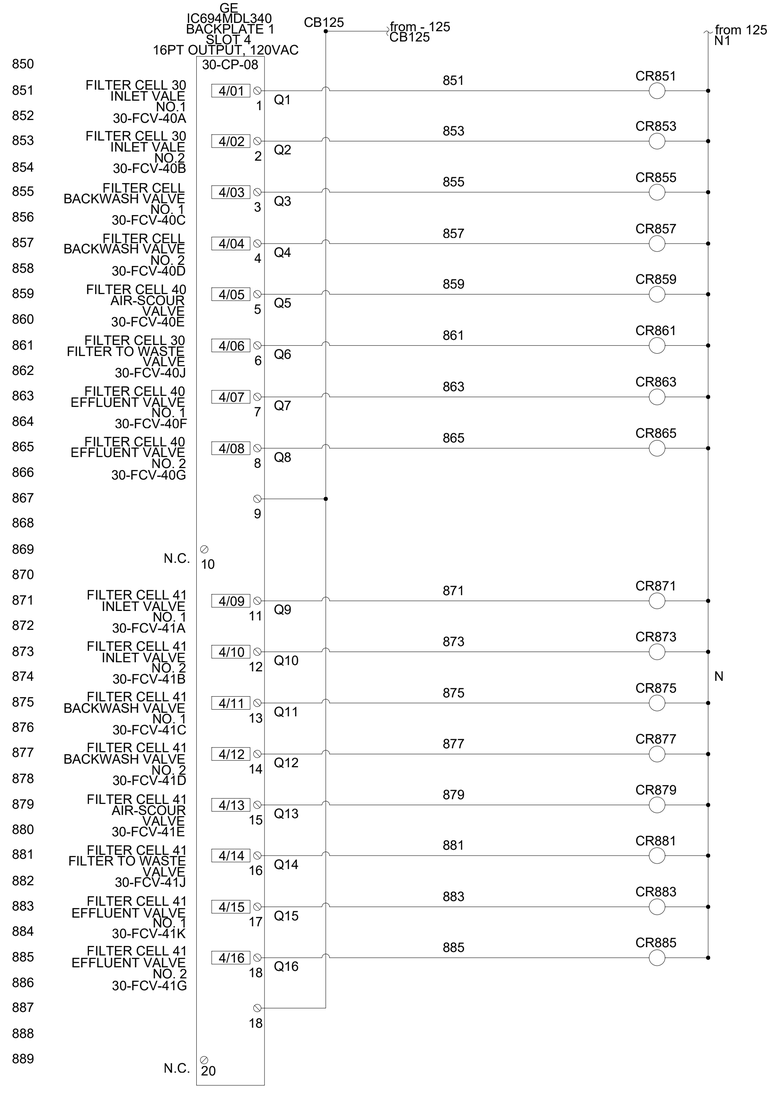
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SLOT 3
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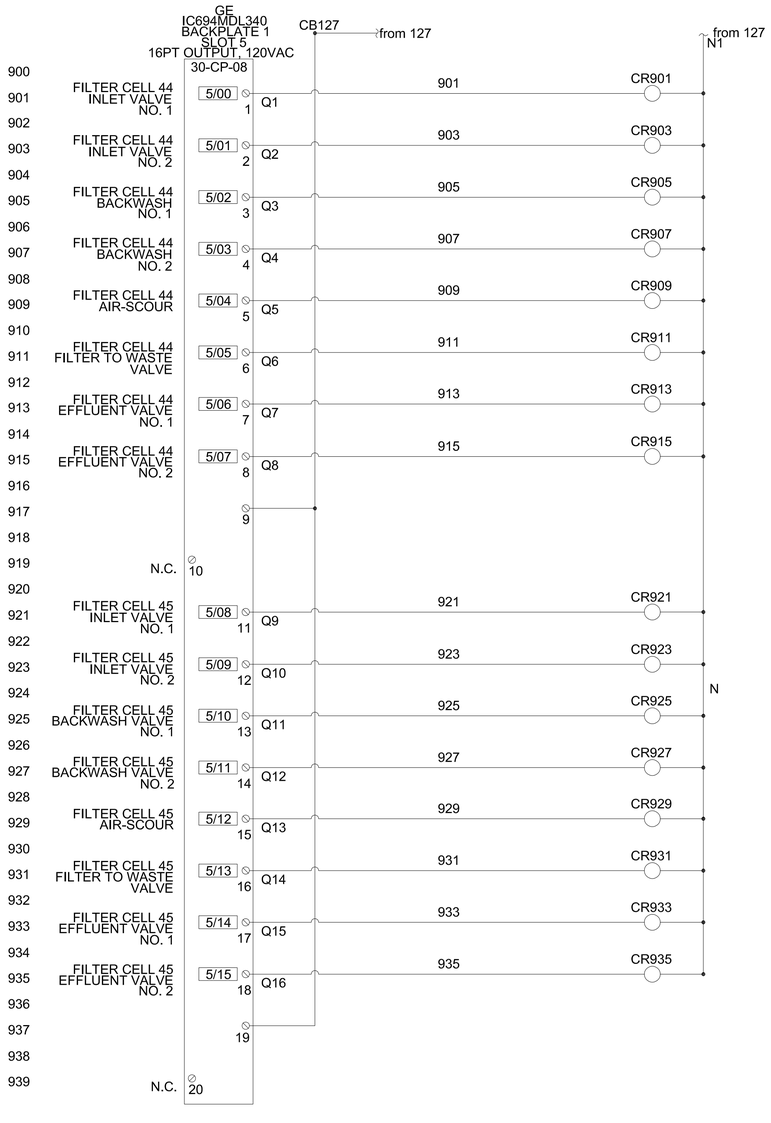
ELECTRICAL DIAGRAMS

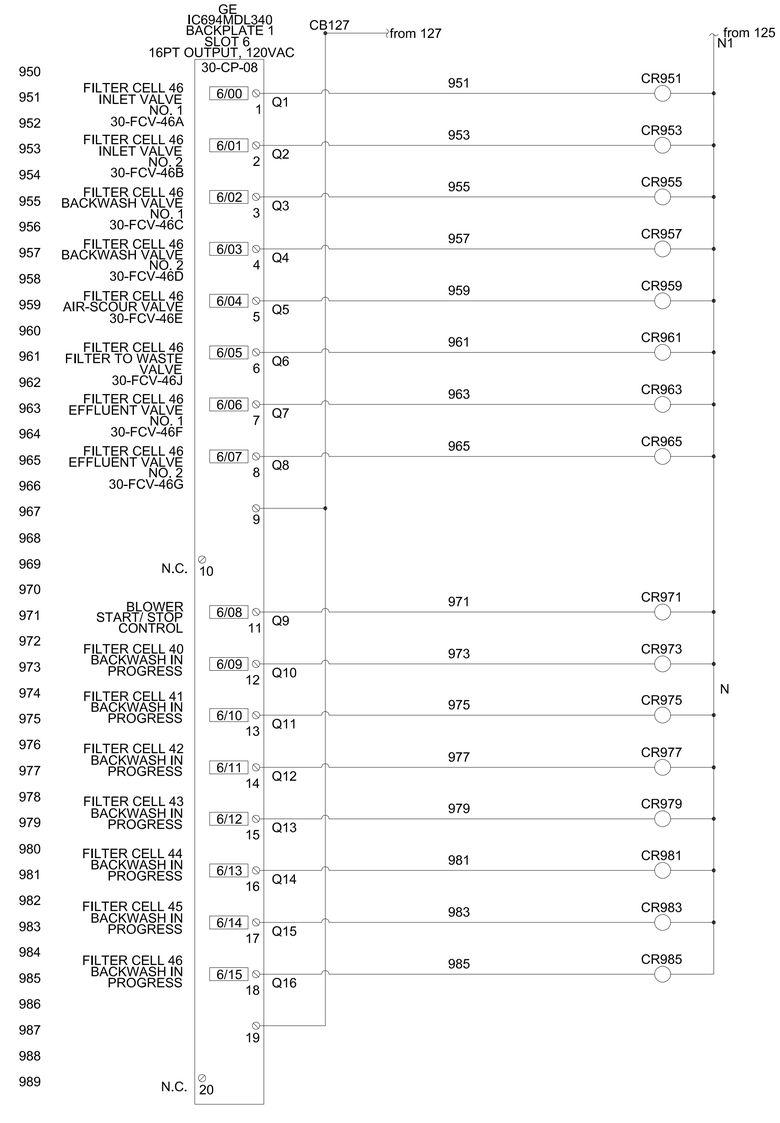
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ELEVATIONS SLOTS 3 & 4
(DIGITAL INPUTS)

E-00-010 | OF

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REHABILITATION

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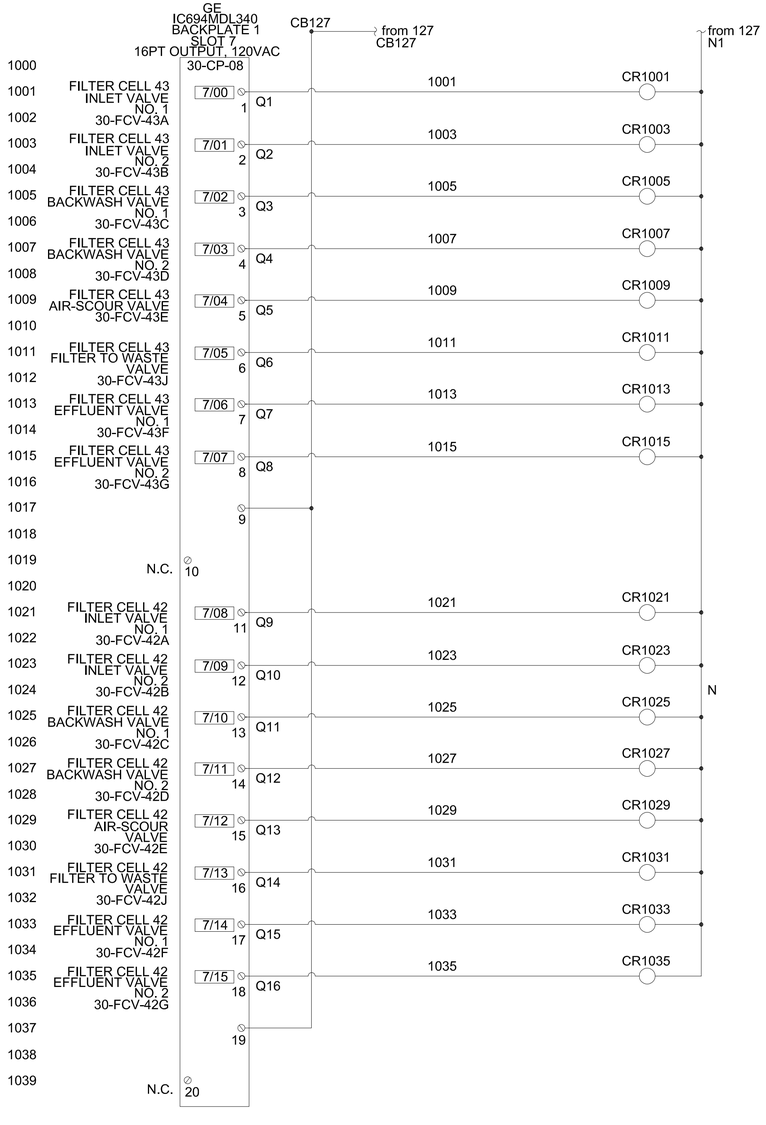
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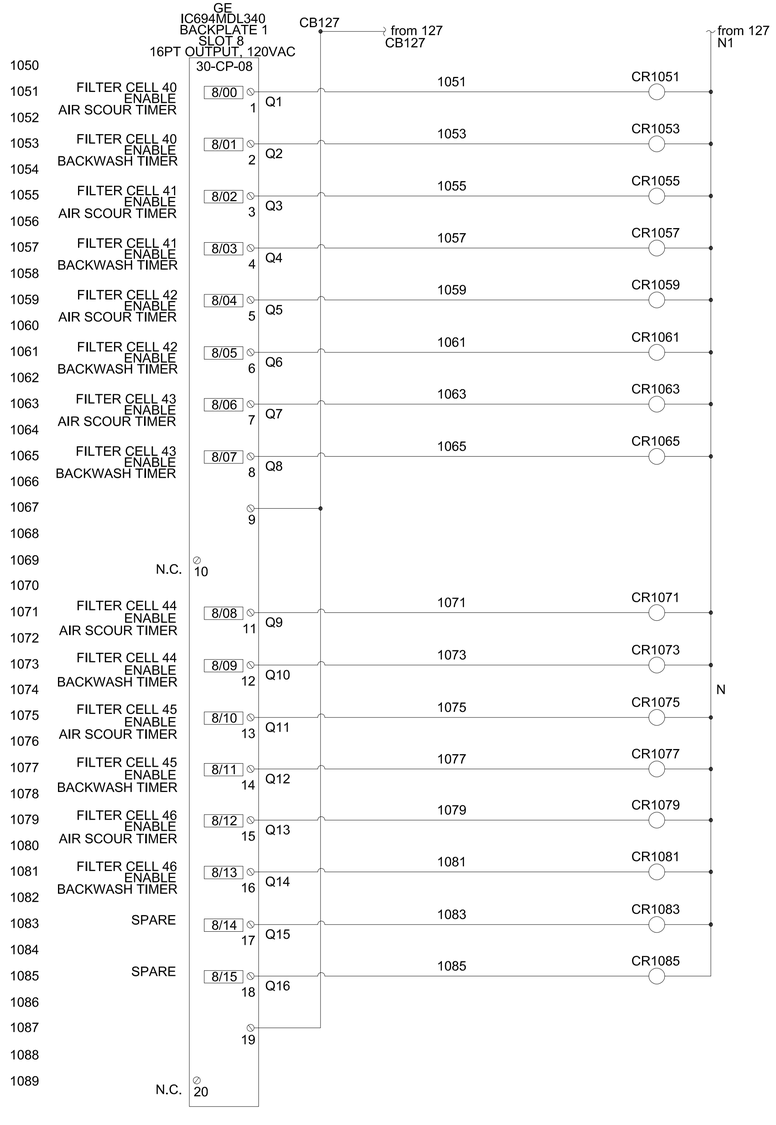
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ELEVATIONS SLOTS 5 & 6
(DIGITAL INPUTS)

E-00-011 | OF

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REVISIONS AND RECORD OF ISSUE

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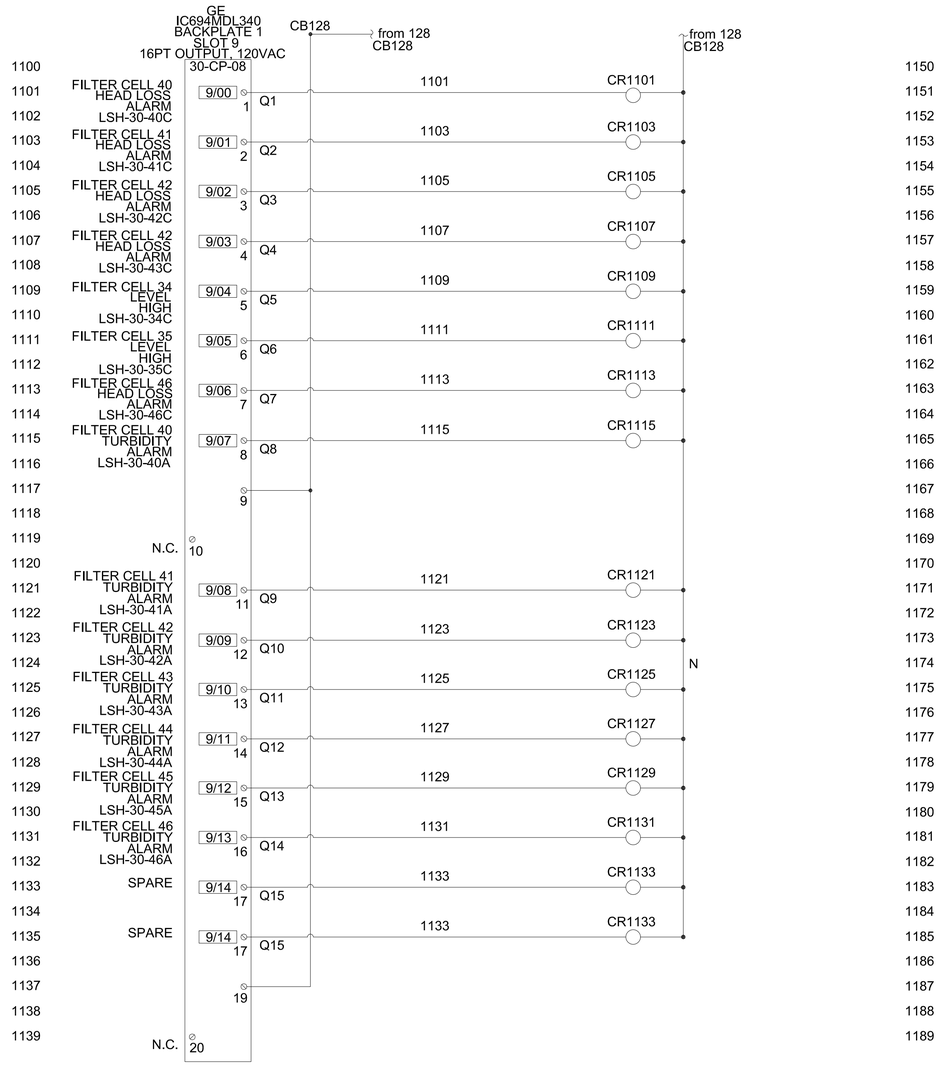
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PANEL RACK NO. 1
ELEVATIONS SLOTS 7 & 8
(DIGITAL INPUTS)

E-00-012 OF

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SLOT 10 SPARE

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REHABILITATION

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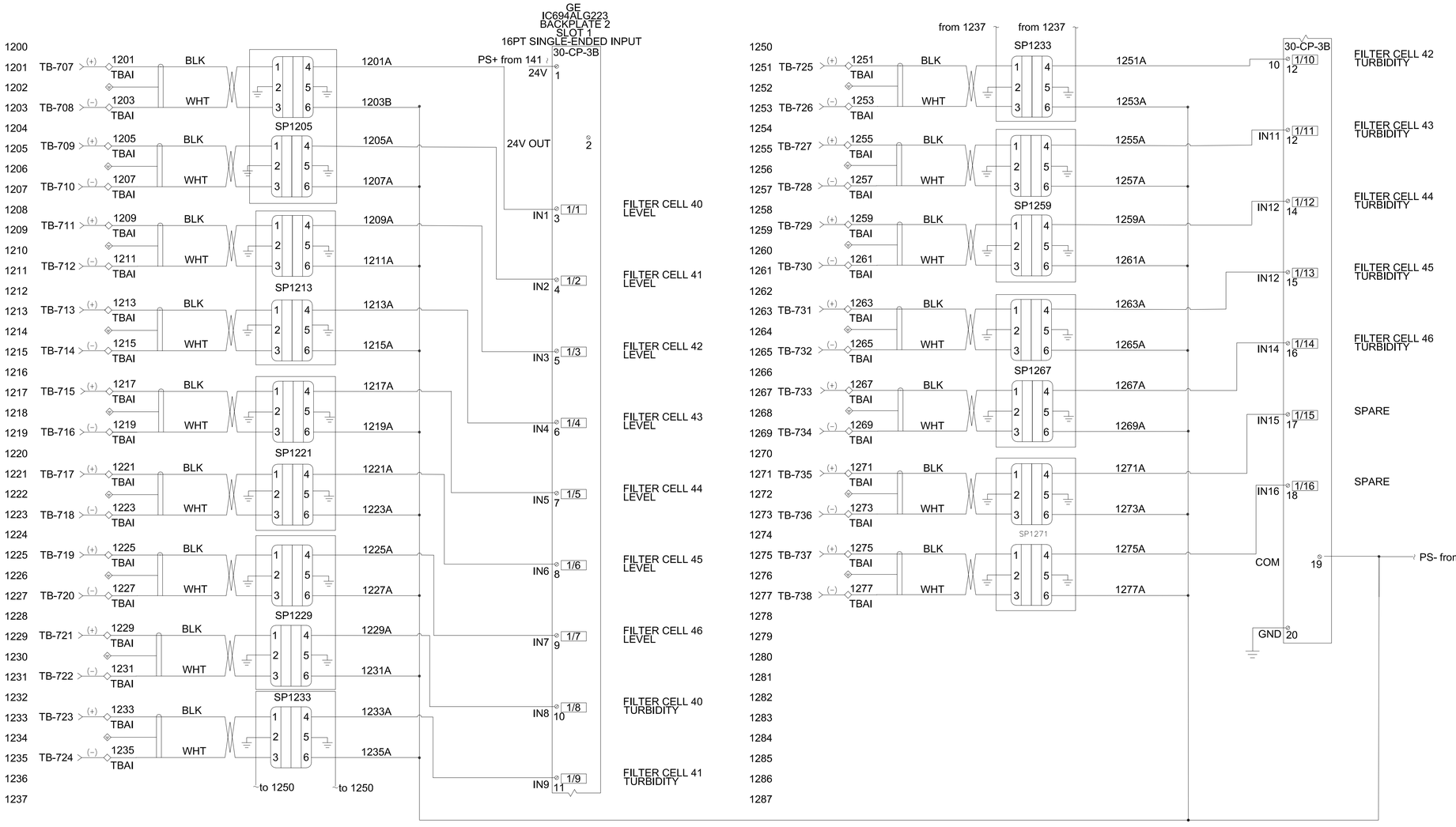
ELECTRICAL DIAGRAMS

PANEL RACK NO. 1
ELEVATIONS SLOTS 9 & 10
(DIGITAL INPUTS)

E-00-013 | OF

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REHABILITATION

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CHECKED:	
APPROVED:	
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PROJECT NO.:	413293

ELECTRICAL DIAGRAMS

PANEL RACK NO. 2
ELEVATIONS SLOT 1
(ANALOG WIRING INPUT)

E-00-014 | OF

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SPARE SLOT 3

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TRAINS 7 & 8
REHABILITATION

REVISIONS AND RECORD OF ISSUE

DESIGNED:	LJB
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CHECKED:	
APPROVED:	
DATE:	JANUARY 2023
PROJECT NO.:	413293

ELECTRICAL DIAGRAMS

PANEL RACK NO. 2
ELEVATIONS SLOTS 2 & 3
(SPARE & SPARE)

E-00-015 | OF

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SPARE SLOT 4

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SPARE SLOT 5

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TRAINS 7 & 8
REHABILITATION

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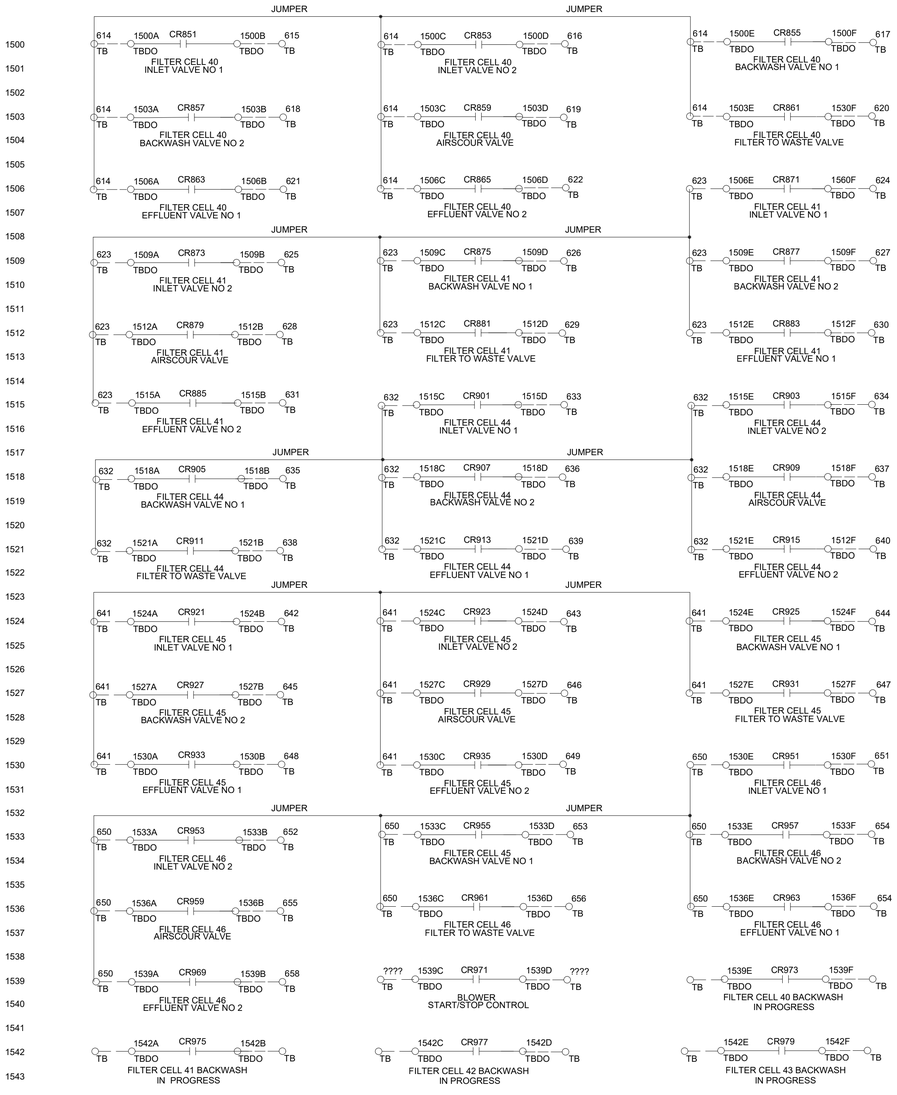
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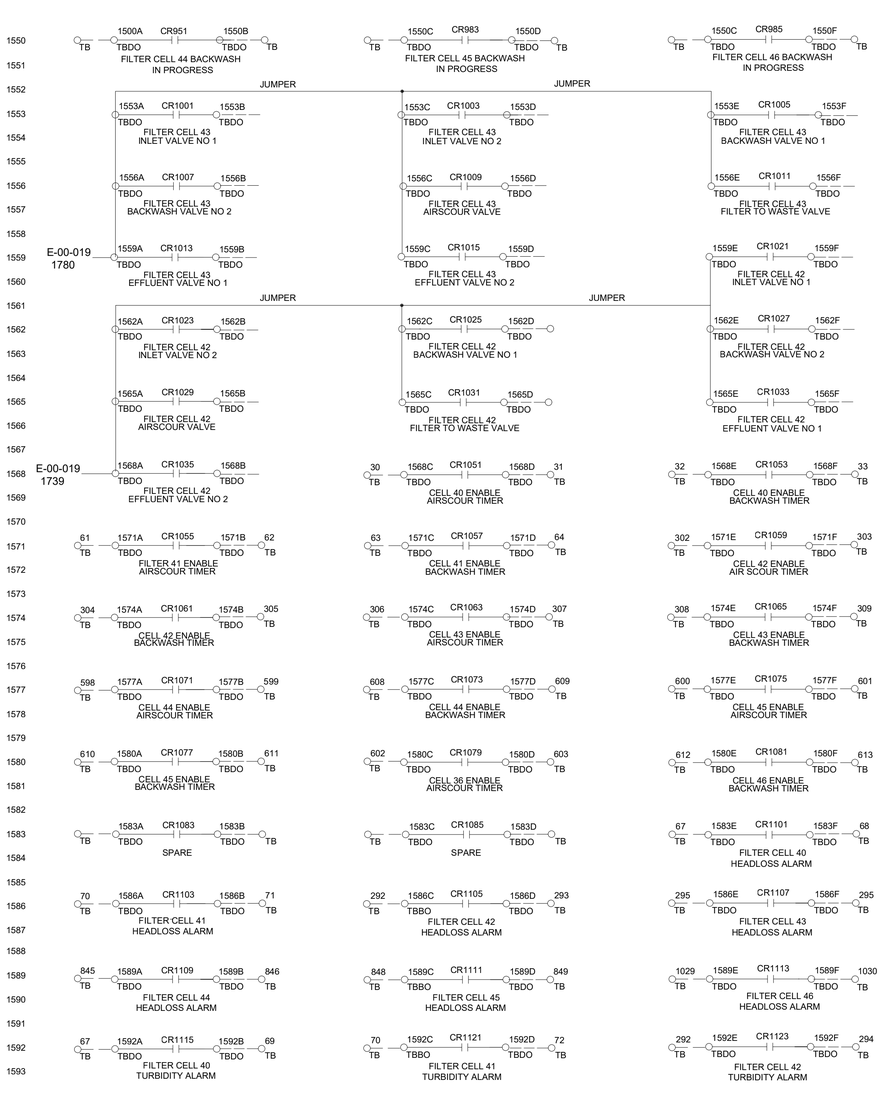
PANEL RACK NO. 2
ELEVATIONS SLOTS 4 & 5
(SPARE & SPARE)

E-00-016 OF

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TRAINS 7 & 8 REHABILITATION

REVISIONS AND RECORD OF ISSUE

DESIGNED:	LJB
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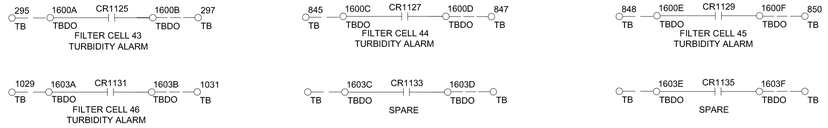
ELECTRICAL DIAGRAMS

DIGITAL OUTPUT RELAY CONTACT SCHEMATIC 1

E-00-017 | OF

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TRAINS 7 & 8
REHABILITATION

REVISIONS AND RECORD OF ISSUE

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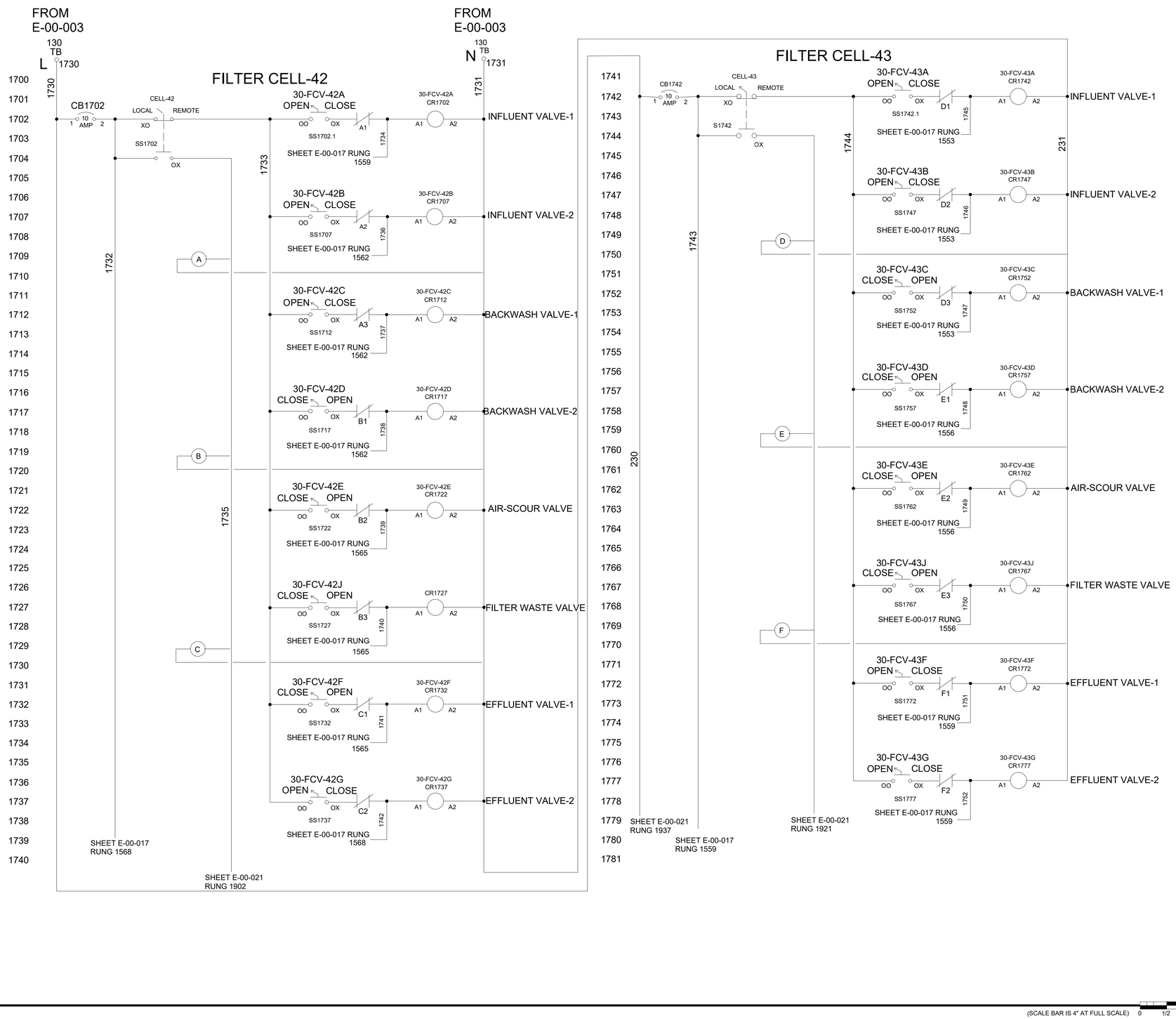
ELECTRICAL DIAGRAMS

DIGITAL OUTPUT
RELAY CONTACT
SCHEMATIC 2

E-00-018 | OF

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REHABILITATION

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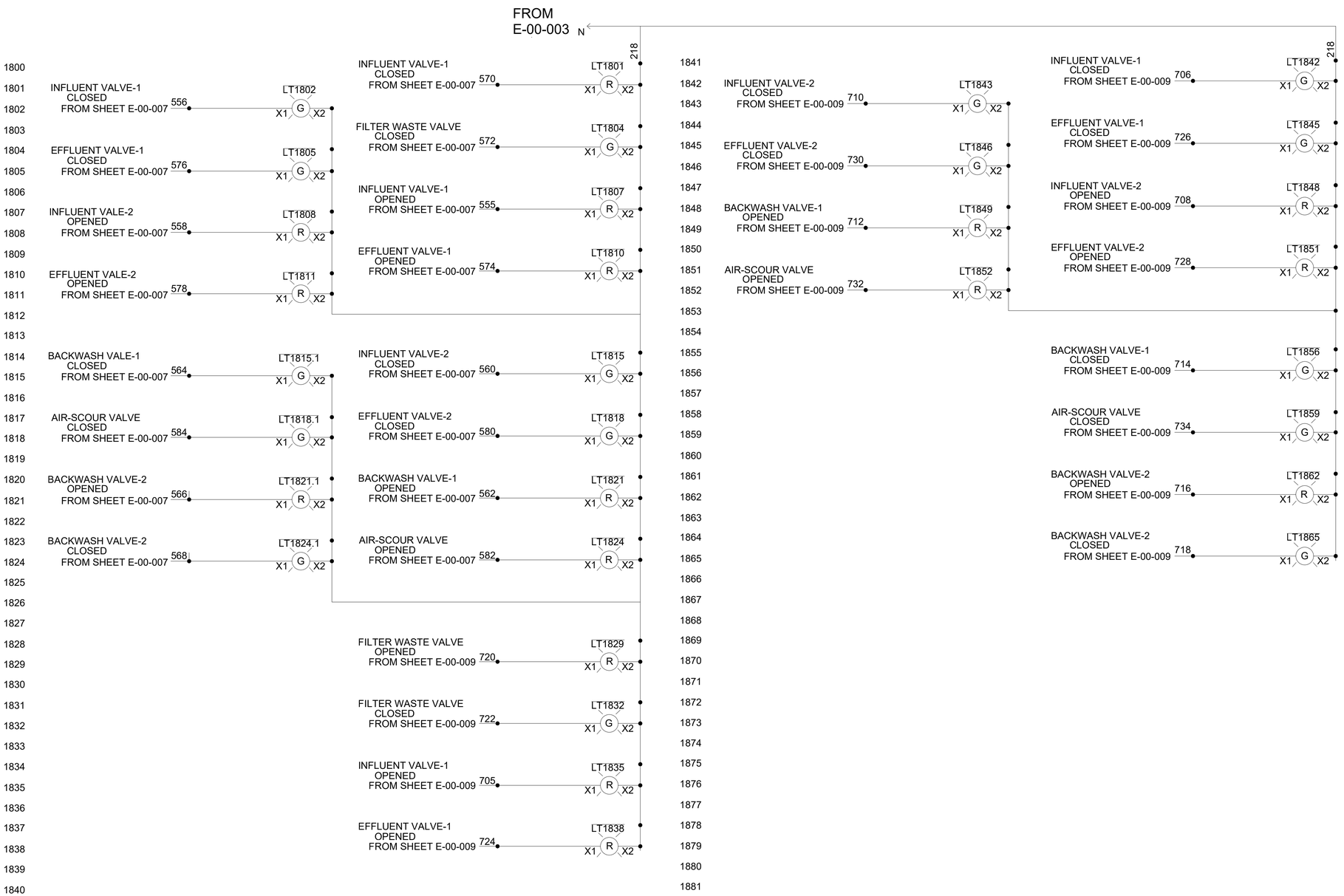
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FILTER CELL 42 & 43
SCHEMATICS 1

E-00-019 OF

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REHABILITATION

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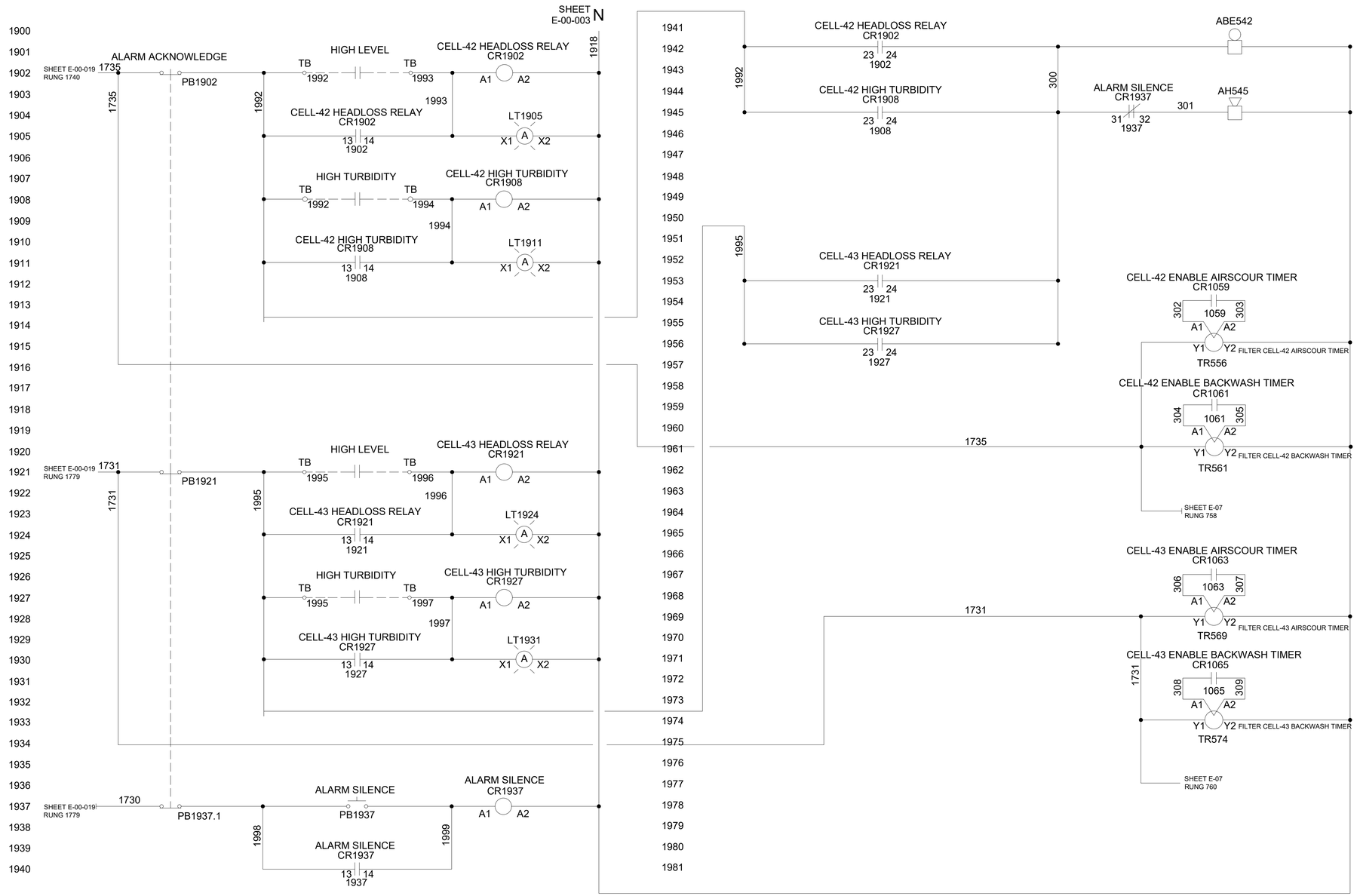
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FILTER CELL 42 & 43
SCHEMATICS 2

E-00-020 | OF

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(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4



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TRAINS 7 & 8
REHABILITATION

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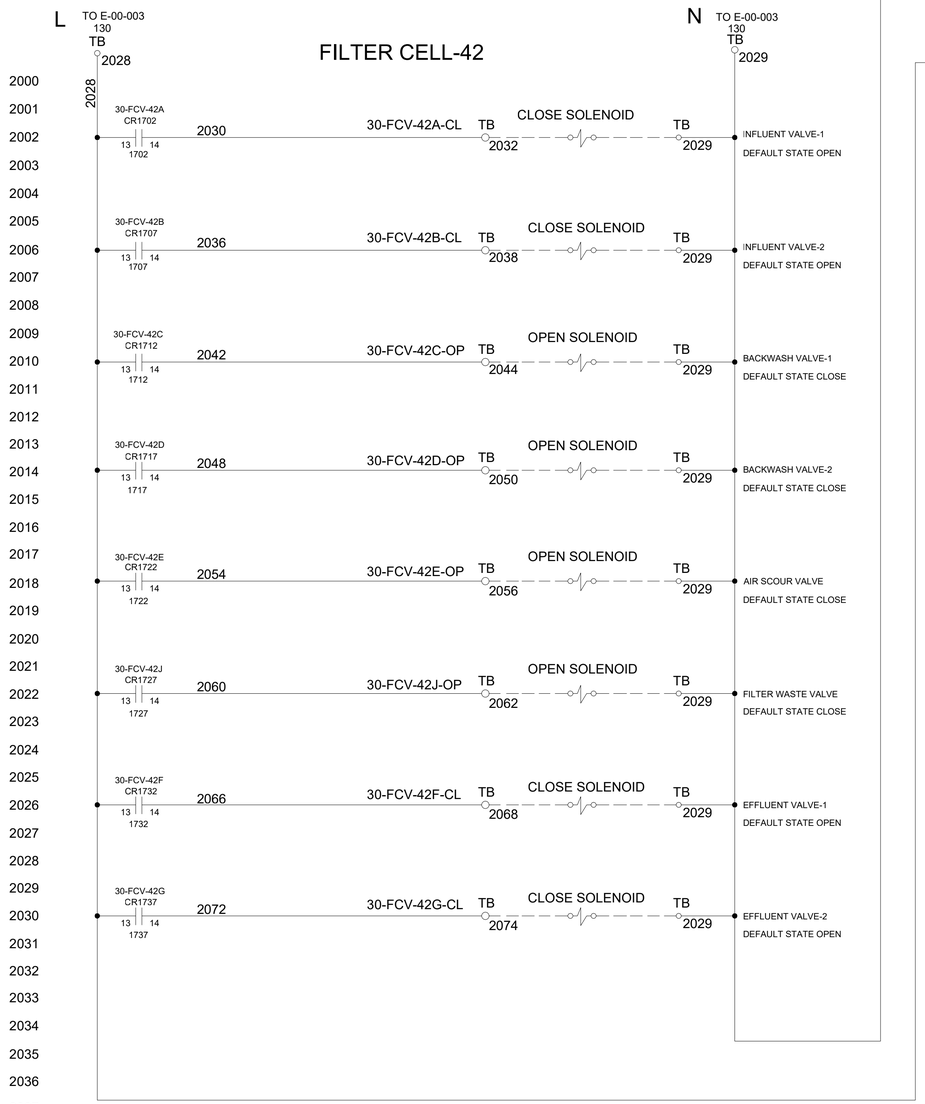
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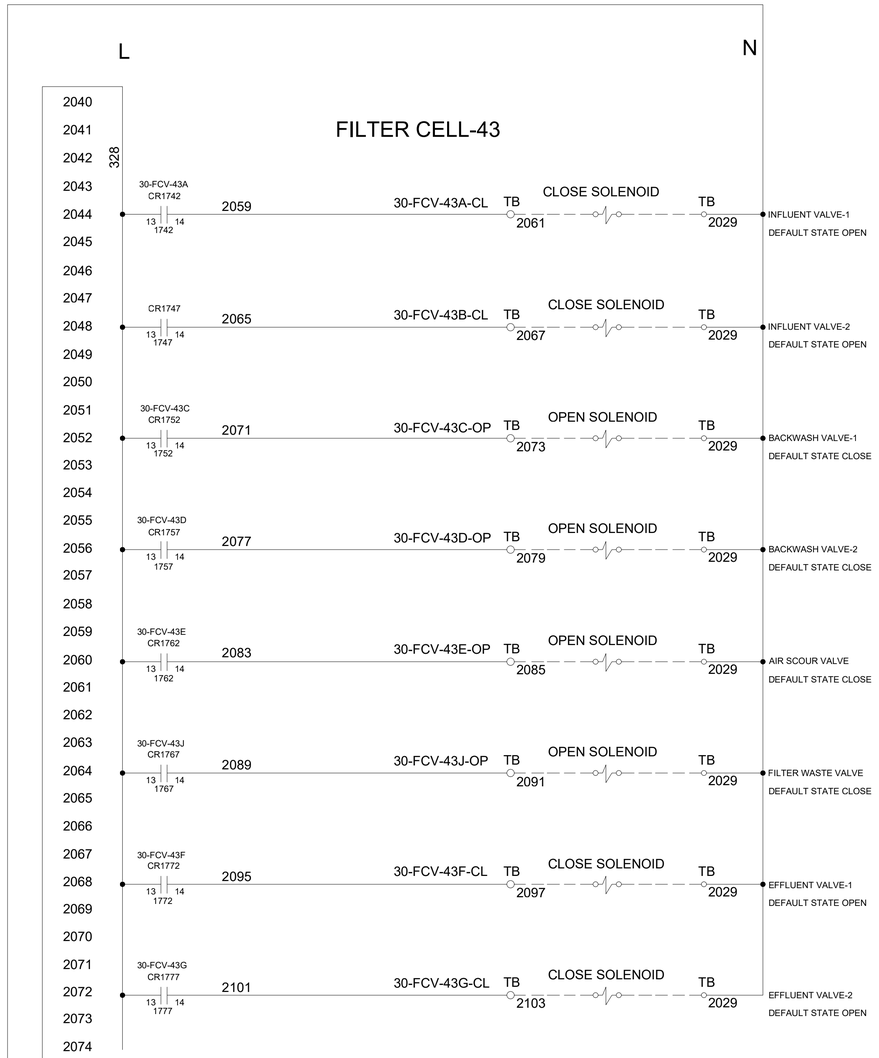
FILTER CELL 42 & 43
SCHEMATICS 3

E-00-021 | OF

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REHABILITATION

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APPROVED:	
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PROJECT NO.:	413293

ELECTRICAL DIAGRAMS

FILTER CELL 42 & 43
SCHEMATICS 4

E-00-022 OF

(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4

PLOTTED: 12/21/2022 10:38:20 AM
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PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Hon. Elton A. Langford, DeSoto County
Hon. Bill Truex, Charlotte County
Hon. Mike Moran, Sarasota County
Hon. George Kruse, Manatee County

Mike Coates, P.G., Executive Director

Invitation to Bid:
Programmable Logic Control Panel (Plant 4 Filter Control Panel)

Addendum No. 1
March 8, 2023

Bidders on this project are hereby notified that Addendum No. 1 shall be attached to and made part of the above-named Bid Documents, dated February 13, 2023.

Changes/Clarifications

1. **TECHNICAL AND BID SPECIFICATIONS SECTION 13500, INSTRUMENTATION AND CONTROLS**

   DELETE the sentence and bullet points:

   "The Panel Builder shall be one of the following system integrators:

   1. McKim and Creed
   2. Woodard and Curran
   3. Corollo."

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

REGULAR AGENDA
ITEM 1

Water Supply Conditions Report

Presenter - Richard Anderson, Director of Operations

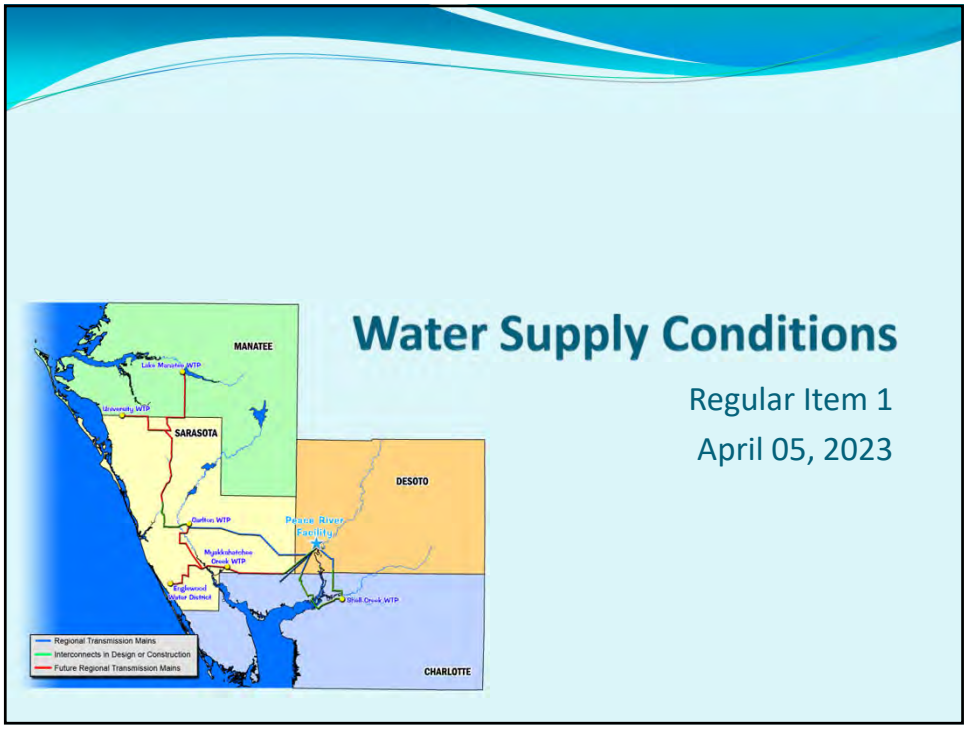
Recommended Action - **Status Report**. This item is presented for the Board's information and no action is required.

Water Supply Conditions at the Peace River Facility as of March 17, 2023.

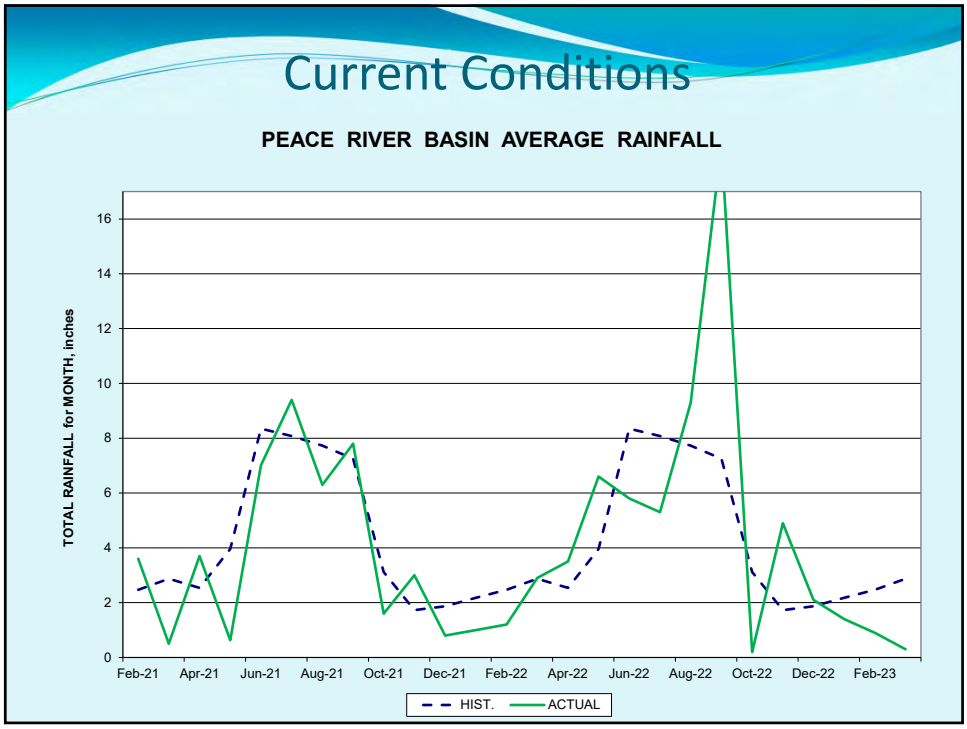
- Water Supply Quantity: Excellent
- Treated Water Quality: Excellent

March Water Demand	33.20 MGD
March River Withdrawals	9.20 MGD
Storage Volume:	
Reservoirs	6.35 BG
ASR	8.78 BG
Total	15.13 BG

Attachments:
Presentation Materials

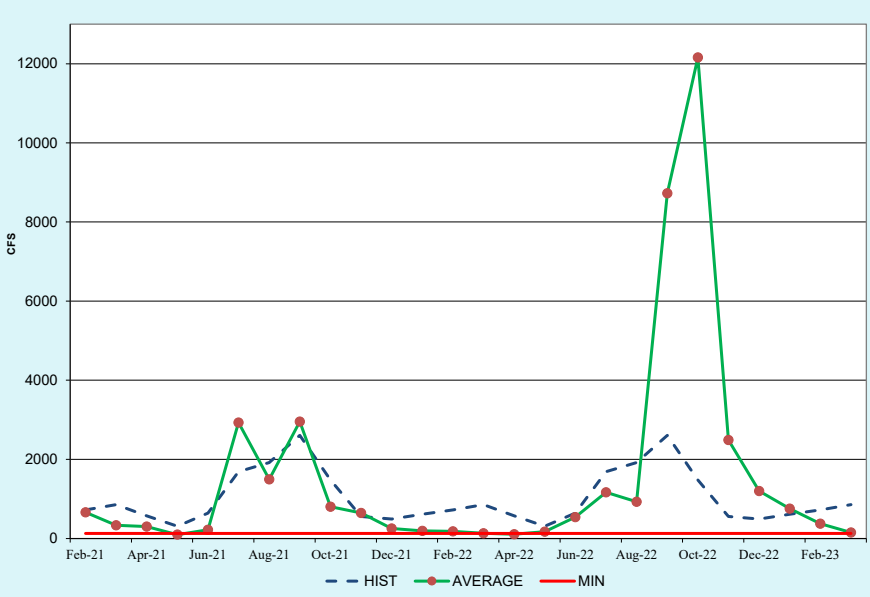

Water Supply Conditions
Regular Item 1
April 05, 2023
MANATEE
SARASOTA
DESOTO
CHARLOTTE
Lake Manatee WTP
University WTP
Peace River Facility
Myakkahatchee Creek WTP
Shell Creek WTP
Regional Transmission Mains
Interconnects in Design or Construction
Future Regional Transmission Mains

1


Current Conditions
PEACE RIVER BASIN AVERAGE RAINFALL
TOTAL RAINFALL for MONTH, inches
0
2
4
6
8
10
12
14
16
Feb-21
Apr-21
Jun-21
Aug-21
Oct-21
Dec-21
Feb-22
Apr-22
Jun-22
Aug-22
Oct-22
Dec-22
Feb-23
HIST.
ACTUAL

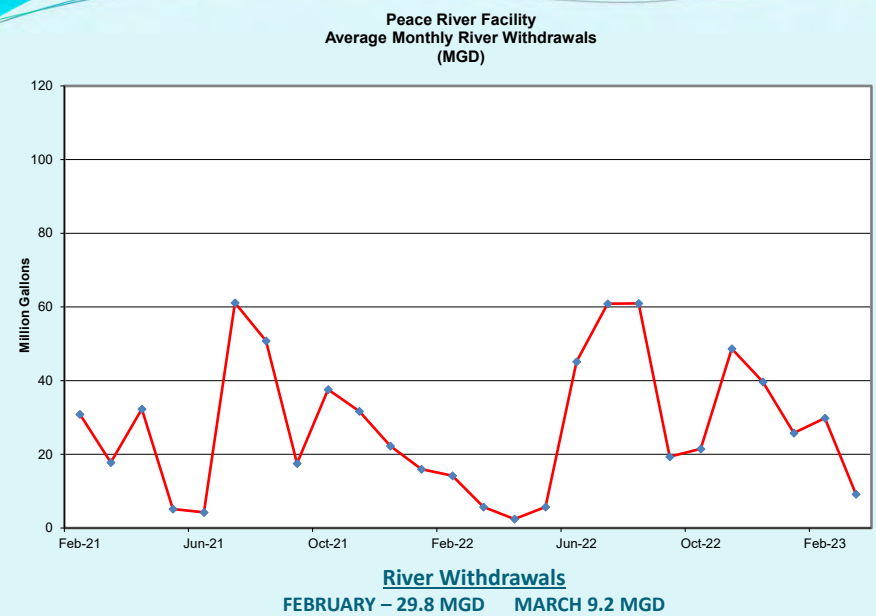
2

River Flows



3

River Withdrawals

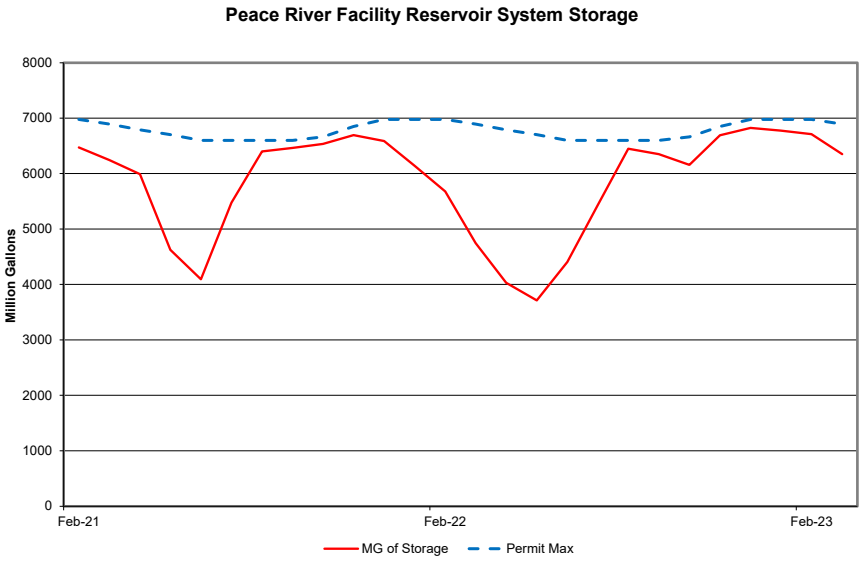


River Withdrawals

FEBRUARY – 29.8 MGD MARCH 9.2 MGD

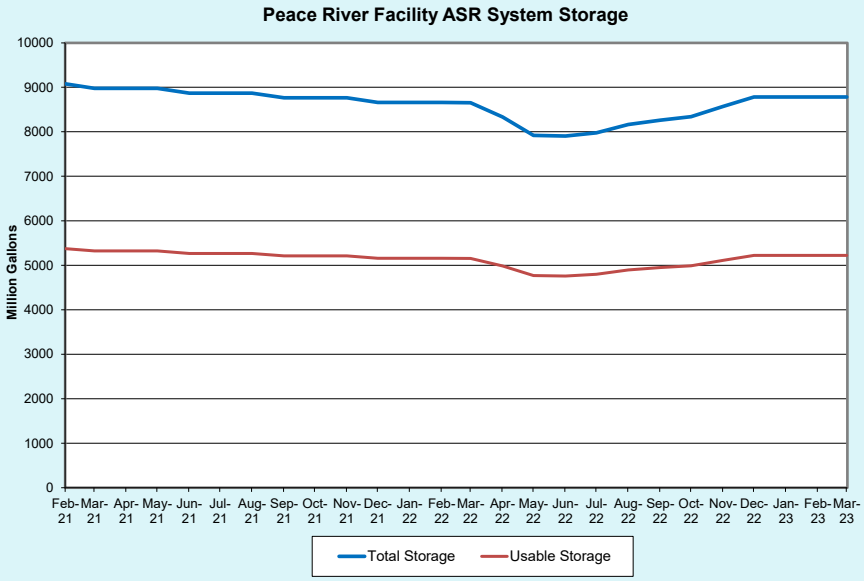
4

Surface Water Storage



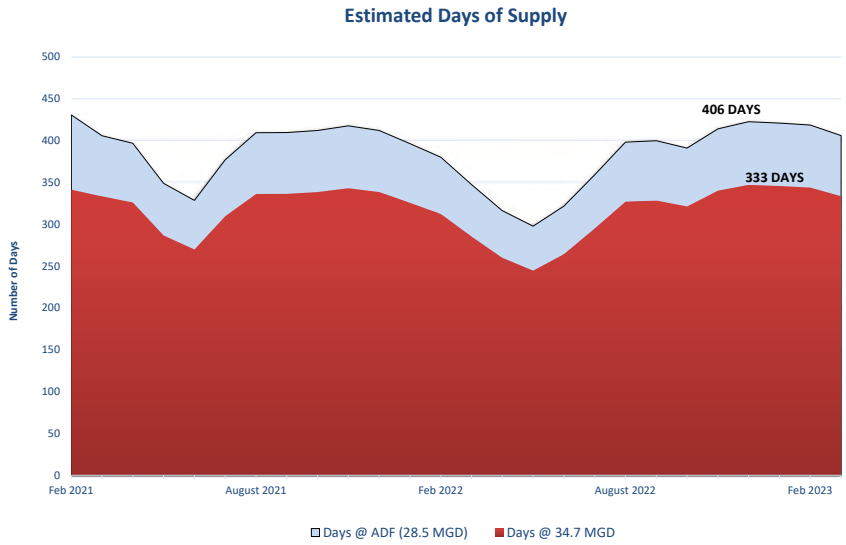
5

ASR Storage



6

Estimated Days of Supply



7

Regional Water Production and Use February 2023

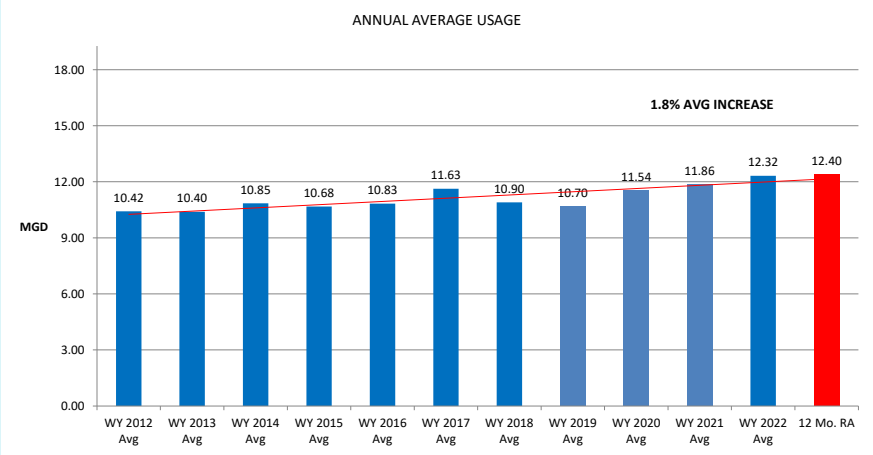


Source	Capacity [MGD]	FEB 2023 [MGD]
Authority System	34.70	31.48
County & City Facilities	69.97	56.43
Total Capacity & Production	104.7	**87.90**
Export to Non Authority Customers	NA	4.58
Authority Customer Total Water Use	104.7	**83.32**

8

Charlotte County

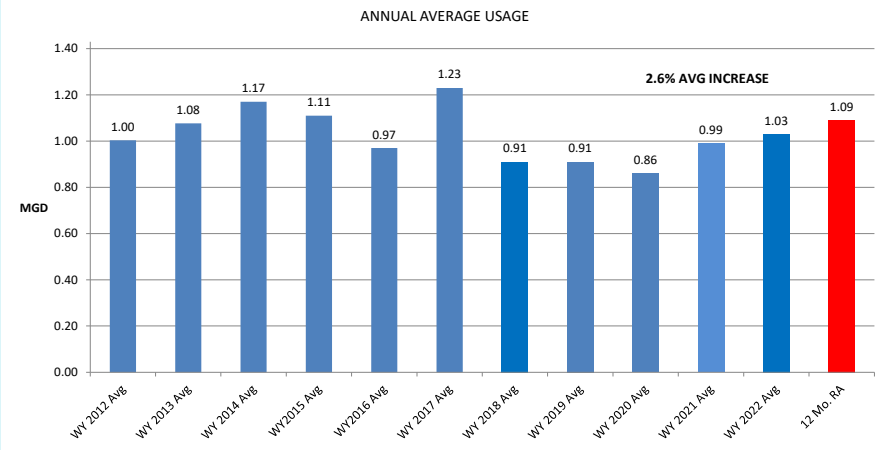
SOURCE	CAPACITY [MGD]	FEBRUARY 2023 [MGD]	% UTILIZED
Peace River Facilities	16.10	13.04	81%
Charlotte Self Supply	3.17	.78	25%
TOTAL	**19.27**	**13.82**	**72%**



9

Desoto County

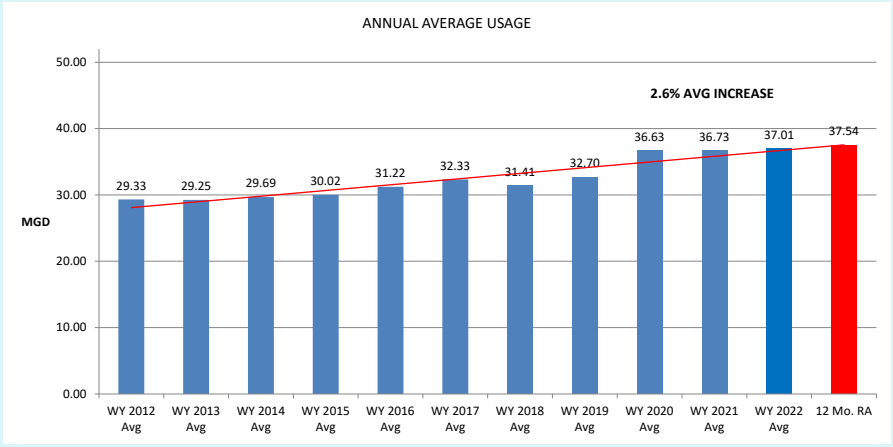
SOURCE	CAPACITY [MGD]	FEBRUARY 2023 [MGD]	% UTILIZED
Peace River Facilities	0.695	0.73	105%
Desoto Self Supply	0.75	0.29	39%
TOTAL	**1.425**	**1.02**	**71%**



10

Manatee County

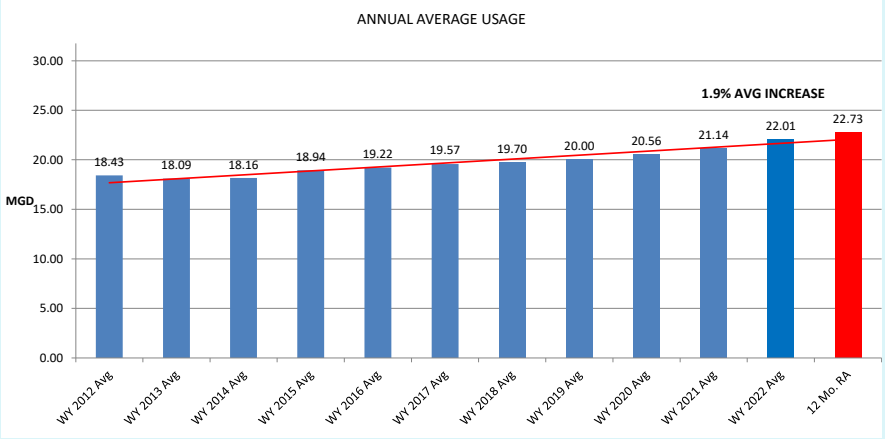
SOURCE	CAPACITY [MGD]	FEBRUARY 2023 [MGD]	% UTILIZED
Manatee Self Supply	52.00	39.33	75.5%
Export to Sarasota Co.	NA	3.91	
Export to Others	NA	4.58	
TOTAL	**52.00**	**47.82**	**92%**



11

Sarasota County

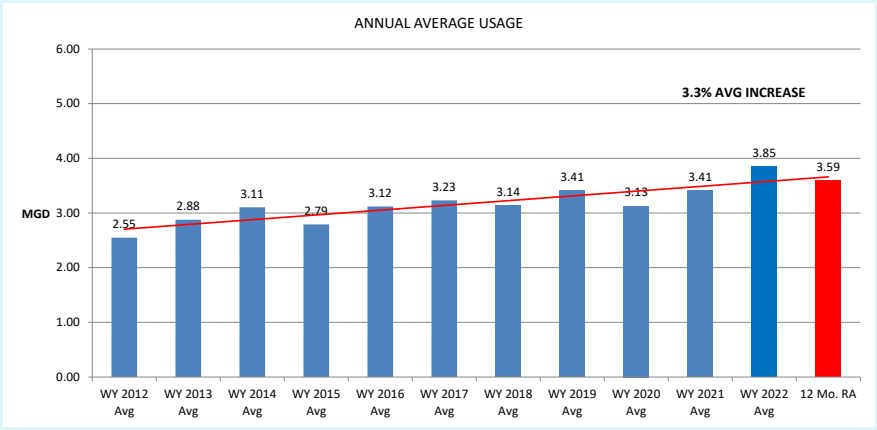
SOURCE	CAPACITY [MGD]	FEBRUARY 2023 [MGD]	% UTILIZED
Peace River Facilities	15.06	15.76	105%
Import from Others	5.00	3.74	75%
County Self Supply	10.52	6.04	57%
TOTAL	**33.58**	**25.54**	**76%**



12

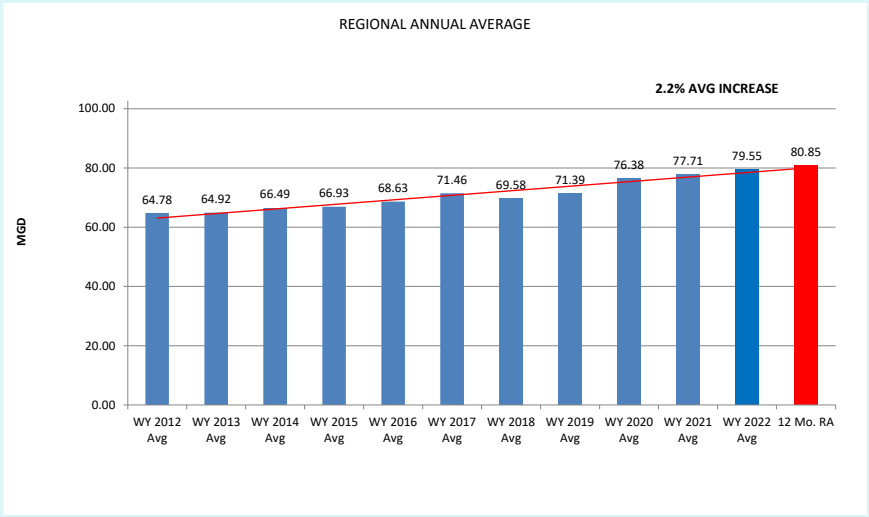
North Port

SOURCE	CAPACITY [MGD]	FEBRUARY 2023 (MGD)	% UTILIZED
Peace River Facilities	2.865	1.95	68%
North Port Self Supply	3.30	1.50	45%
Water Exchanged	N/A	0.17	
TOTAL	**6.165**	**3.62**	**58%**



13

Regional Demand



14

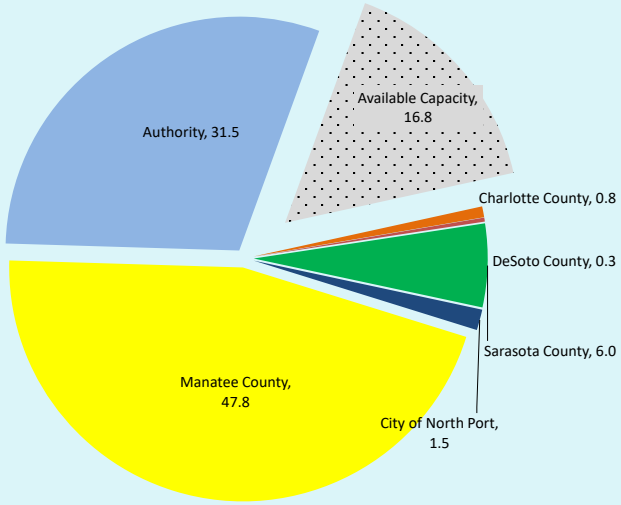
Regional Utilization February 2023

104.7 MGD Available

87.9 MGD Used

16.8 MGD Available

84% Utilized



15

Regional System Free Chlorine Conversion Update

Peace River Manasota
Regional Water Supply Authority

NEWS RELEASE
March 8, 2023

Contact: Mike Coates, Executive Director
Richard Anderson, Director of Operations
Peace River Manasota Regional Water Supply Authority
PeaceRiver@regionalwater.org
941-316-1776

TEMPORARY CHANGE TO WATER DISINFECTION PROCESS

DESOTO COUNTY, Fla. (March 8, 2023) –The Peace River Manasota Regional Water Supply Authority will temporarily change the disinfection process for its potable (drinking) water supply, including for customers of Charlotte County Utilities, DeSoto County Utilities, Sarasota County Utilities, City of North Port Utilities and City of Punta Gorda Utilities. From March 15, 2023 through May 14, 2023, the water will be disinfected with free chlorine rather than chlorine combined with ammonia (chloramines). This conversion to free chlorine from chloramines allows the utility to perform a distribution system purge as recommended by the Florida Department of Environmental Protection for water utilities using chloramines as their primary disinfectant.

A "free chlorine conversion", as it is known, is a common practice by public water systems that use chloramines to periodically increase the level of disinfectant residual throughout the distribution system.

County and City Utilities water will REMAIN SAFE TO DRINK throughout this process and boiling water is not necessary. Customers may notice a change to the taste and smell from the water. The water may discolor laundered clothes. Homeowners should flush any cloudy or discolored water that may enter the plumbing by running a faucet for several minutes or until the water runs clear. For information on preventing waterborne germs, visit https://www.cdc.gov/healthywater/drinking/preventing-waterborne-germs-at-home.html.

Customers on kidney dialysis who use a proportioning machine to prepare dialysate at home are advised to contact their physician or equipment supplier to obtain the appropriate steps to accommodate the change in water disinfection and to install the proper filtering devices, if needed.

Customers using the water for aquariums should monitor the chlorine residuals and are advised to contact a professional aquarist to ensure proper pretreatment of the water before adding or changing the water in the tank to avoid any problems associated with chlorine.

Your local utility will flush the water distribution system in conjunction with this change in the process. The flush will allow the free chlorine to move quickly throughout the distribution system.

For information contact: Mike Coates, Executive Director or Richard Anderson, Director of Operations at (941) 316-1776 or email PeaceRiver@regionalwater.org.

16

Distribution System Maintenance

1. Commonly used in Chloramine systems around the country
2. Reduces system flushing
3. Helps maintain proper disinfectant in system
4. Minimizes naturally occurring biofilms
5. Effective strategy for large systems, or systems with long detention times



17

Questions?



18

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

REGULAR AGENDA
ITEM 2

Legislative Update

Presenter - Doug Manson, Manson, Bolves, Donaldson & Tanner

Recommended Action - **Status Report:** This item is provided for Board information and no action is required.

The 2022-2023 Florida legislative session started March 7th and is scheduled to end May 5th. An update will be provided about legislative actions on the Authority's adopted legislative priorities.

Budget Action: None required.

Attachments:
Authority 2023 Legislative Priorities

Regular 2 – Legislative Update April 5, 2023

This is week five of the 2023 Florida Legislative Session, which is scheduled to end May 5, 2023. Although a short week due to Passover and Easter, the Legislature has been busy debating bills related to leadership priorities. The budget has been a main priority this week as well. In addition, the Governor signed into law the permitless concealed weapons legislation.

Budget

Both the House and Senate took action on approving their respective chambers budget, implementing bill, and conforming bills. The Senate is taking the lead on the budget this year (meaning it's the Senate bill number that will actually become law). On April 4, 2023, the House took up Senate Bill 2500 and amended it with the House budget. This action of amending the Senate bills occurred with all of the bills related to the budget. This was done to procedurally get the House and Senate in the proper position to appoint a joint conference committee so that the budget, implementing bill, and conforming bills can be negotiated between the chambers. The chambers are hundreds of millions apart and have different priorities funded.

Below are the status of the Authority's appropriations requests:

Phase 3C Pipeline:	$3 million in Senate Budget (SB 2500) – requested $5 million 1705A GRANTS AND AIDS TO LOCAL GOVERNMENTS AND NONSTATE ENTITIES - FIXED CAPITAL OUTLAY GRANTS AND AIDS - WATER PROJECTS FROM GENERAL REVENUE FUND
Regional Reservoir No. 3: Final Design/Construction	$12.5 million in House Budget (HB 5001) – requested $25 million 1705A GRANTS AND AIDS TO LOCAL GOVERNMENTS AND NONSTATE ENTITIES - FIXED CAPITAL OUTLAY GRANTS AND AIDS - WATER PROJECTS FROM GENERAL REVENUE FUND This is the highest funding under this budget category to date.
Phase 2B:	Not included in either the House or Senate budget – requested $5 million

The Senate Budget also includes $120 million for resiliency grants; whereas, the House budget includes $300 million for resilience grants.

Chapter 373, Florida Statutes

CS/SB 742/CS/CS/HB 713: Administrative Procedures by Senator Grall and Representative McFarland. These bills revise the rulemaking process for agency rules,

including requiring the repromulgation of rules and repeal of rules if not repromulgated and increasing the requirements for statements of estimated costs. In addition, to revisions to the APA, the bill creates an infrastructure and environmental permitting review. The bills direct the Department of Environmental Protection and each water management district to conduct a holistic review of their current coastal permitting programs and other permit programs in order to increase efficiency within each process. These permitting processes must include, but are not limited to: coastal construction control line permits; joint coastal permits; environmental resource permits; state-administered section 404 permits (consistent with the terms of the Environmental Protection Agency's approval); and permitting processes related to water supply infrastructure, wastewater infrastructure, and onsite sewage treatment and disposal systems. The scope and purpose of the review is to identify areas of improvement and to increase efficiency within each process. Factors that must be considered in the review include the requirements to obtain a permit; time periods for permit review, including by commenting agencies, and approval of the permit application; areas for improved efficiency and decision-point consolidation within a single project's process; areas of duplication across one or more permit programs; methods of requesting permits; and any other factors that may increase the efficiency of the permitting process and may allow improved storm recovery. The report must be submitted to the Governor and Legislature by December 31, 2023.

SB 930: Excise Tax on Water Extracted for Commercial or Industrial Use by Senator Stewart. This bill imposes an excise tax upon persons extracting water from waters of the state for commercial or industrial use with public supply exempt from the tax. This bill has no House bill companion and it has not been heard by a committee.

SB 1240/HB 1197: Land and Water Management by Senator Burgess and Representative Maggard. These bills make it clear that local governments may not regulate wetlands, water use, water quality, pollution control, and pollutant discharge. These bills have not been heard by a committee in either chamber.

SB 1702/HB 1167: Mitigation Credits by Senator DiCeglie and Representative Duggan. These bills allow for mitigation credits to be released before the bank meets mitigation success criteria when there are insufficient mitigation bank credits available. These bills have not been heard by a committee in either chamber.

Blue Green Algae Task Force

CS/SB 1538/HB 423: Implementation of the Recommendations of the Blue-Green Algae Task Force. CS/SB 1538, which was approved on April 4, 2023 by its first committee reference, requires that each project listed in a new or revised basin management action plan (BMAP) with a total cost exceeding $1 million must be monitored to determine if it is working to reduce nutrient pollution or water use, or both, as intended. The monitoring assessments must be completed expeditiously and included in each

BMAP update. The House Bill has not been heard by a committee.

Confirmations

Elijah D. Armstrong, William T. Hogarth, James W. Holton, Dustin Rowland, and Robert Gary Stern are members of the Southwest Florida Water Management District Governing Board and are up for confirmation by the Florida Senate. Elijah D. Armstrong, James W. Holton, Dustin Rowland, and Robert Gary Stern have been recommended for confirmation by the Senate Environment and Natural Resources Committee on March 27, 2023.

Local Government Operations

CS/CS/HB 239: Special Risk Class Retirement Date by Representative Busatta Cabrera (there are other retirement bills but this is the main one). This bill conforms law to the House proposed 2023-2024 General Appropriations Act (GAA) as retirement contributions are included in the GAA. The bill increases the employer-funded allocations to investment plan accounts by 1 percent for each membership class. It also restores the pre-2011 cost-of-living adjustment for eligible FRS Pension Plan members to 3 percent. DROP is revised by removing age restrictive entry windows to enter DROP for all members that have met normal retirement requirements, increasing the amount of time all eligible members can participate in DROP from 60 to 96 months, and increasing the amount of interest applied to a member's accrued DROP benefit from 1.3 to 4 percent. The bill also adjusts the employer contribution rates for the FRS based on the annual actuarial valuation and additional actuarial studies. This bill was amended onto CS/SB 7024 so that the bill will be part of the joint conference committee process associated with the negotiation of the budget.

CS/SB 304/HB 1239: United States-produced Iron and Steel in Public Works Projects by Senator Boyd/Representative Griffitts. These bills require a governmental entity entering into a contract for a public works project or for the purchase of materials for a public works project to include in such contract a requirement that any iron or steel product permanently incorporated in the project be produced in the United States, with some exceptions provided. HB 1239 has three committee references remaining and CS/SB 304 has one committee reference remaining.

CS/CS/SB 346/CS/HB 383: Public Construction by Senator DiCeglie and Representative Griffitts. These bills makes substantial changes related to construction services, check lists, and retainage. The local government must pay all portions of the contract balance, except for 150 percent of the portion attributed to those projects on the list, within specified days after the list is created, subject to certain exceptions. A local government must pay the contractor for the remaining list projects upon their total completion, subject to certain exceptions. Local governments' ability to withhold certain amounts under the contract are limited to only those subject to a written good faith dispute or claims against public surety bonds. Timeframes in which a disputed construction services contract must be resolved are shortened, and a local government must pay the

undisputed portions of a contract within specified days. The definition of "public works project" is amended to include any construction, maintenance, repair, renovation, remodeling, improvement, or portion thereof that uses any amount of state-appropriated funds. CS/CS/SB 346 is in its last committee reference in the Senate and CS/HB 383 is in its last committee reference in the House.

SB 604/CS/HB 401: Sovereign Immunity by Senator Gruters/Representative Beltran. These bills propose to increase the governmental entity sovereign immunity limits from $200,000 per person and $300,000 per incident, with each chamber proposing different limits. SB 604, which has not been heard in committee as of yet, is increasing the limits to $400,000 per person and $300,000 per incident, and HB 401, which was approved by one committee and subsequently postponed in its second committee reference, increases the limits to $2.5 million per person and $5 million per incident.

State Lands Acquisition

CS/SB 106/CS/HB 915: Florida Shared-Use Nonmotorized Trail Network by Senator Brodeur and Representative Botana. CS/SB 106 was approved by the Florida Senate on March 8, 2023 and the Florida House of Representatives approved it on April 4, 2023. The bill has now been enrolled and is waiting to be sent to the Governor. CS/SB 106 expands the existing Shared-Use Nonmotorized (SUN) Trail Network and enhances coordination of the state's trail system with the Florida Wildlife Corridor. The bill increases recurring funding for the SUN Trail Network from $25 million to $50 million and provides a non-recurring appropriation of $200 million to plan, design, and construct the SUN Trail Network.

CS/SB 1632/CS/HB 1379: Environmental Protection by Senator Brodeur and Representative Steele. These bills make substantial changes related to septic tanks, BMAPs, and other water quality issues. In addition, the bills revise land purchasing under Florida Forever and Florida Wildlife Corridor. The contract price for a land acquisition agreement that requires approval by the Board of Trustees is increased from $1 million to $5 million. Additionally, they revise the appraisal requirements applicable to Florida Forever acquisitions to increase the appraisal amount that requires a second appraisal to be conducted from $1 million to $5 million. If both appraisals of a parcel exceed $5 million and differ significantly, a third appraisal may be conducted. In addition, the bills specify that the Board of Trustees is authorized to acquire lands that complete critical linkages that will help preserve and protect the state's green infrastructure and vital habitat for wide-ranging wildlife, such as the Florida panther, within the Corridor.

There is no legislation on potable reuse and ASR as of April 4, 2023.

Peace River Manasota Regional Water Supply Authority
Legislative Priorities 2023

Issue	Legislative/ Regulatory	Activity
STATE		
State Water Infrastructure Funding • Support State funding for Authority water projects that strengthen resiliency of the regional system. • Support State funding for alternative water supply with priority given to regional projects. • Support funding of State trust funds established in existing statutes. o Water Protection and Sustainability Program; and o West-Central Florida Water Restoration Action Plan.	Legislative	Submit project applications for State funding. Monitor and participate in legislative process
Monitor legislation that may be proposed resulting from the framework developed by the Florida Potable Reuse Commission.	Legislative	Monitor legislative process
Monitor legislation that may revise aquifer storage and recovery requirements and support any legislation that would benefit the Authority's ASR program.	Legislative	Monitor legislative process
Monitor legislation that revises Chapter 373, Florida Statutes.	Legislative	Monitor legislative process
Monitor legislation that may implement Blue Green Algae Task Force or Stormwater Technical Advisory Committee recommendations.	Legislative	Monitor legislative process
Support confirmation of Southwest Florida Water Management District Governing Board Member appointments.	Legislative	Support Senate confirmations
Monitor legislation that impacts how the Authority operates, including impacts to independent special districts.	Legislative Committee	Monitor process
Support acquisition by the State and SWFWMD of lands to enhance water management and supply.	Multiple Agencies	Participate in process
Monitor Florida's implementation of Florida's assumption of the Clean Water Act Section 404 Program.	Multiple Agencies	Monitor process

Peace River Manasota Regional Water Supply Authority
Legislative Priorities 2023

Issue	Legislative/ Regulatory	Activity
FEDERAL		
Support the continuation of tax-exempt financing and preserve the ability of water systems to use tax-exempt bonds.	Legislative	Monitor & Support
Support the continuation of U.S. EPA as the lead agency for security at drinking water facilities and the explicit prohibition on the disclosure of security program information under federal, state and local information laws.	Legislative and U.S. EPA	Monitor & Support
Support research to impacts of climate change on the viability and sustainability of drinking water supplies.	Legislative and U.S. EPA	Monitor
Monitor the Clean Water Rule: Definition of 'Waters of the United States'.	U.S. EPA	Monitor
Monitor U.S. EPA proposed rule changes regarding drinking water parameters including PFSA and PFOA.	U.S. EPA	Monitor
Support increased federal funding initiatives for water infrastructure projects	Legislative and U.S. EPA	Monitor & Support

'Through cooperation and collaboration, the Authority and its members shall create, maintain and expand a sustainable, interconnected regional water supply system.'

State Water Infrastructure Funding

- Water Projects that Strengthen Resiliency of the Regional System

The Authority has successfully constructed a regional water system providing drinking water to Charlotte, DeSoto and Sarasota counties The regional water system is based on alternative water supply in a water critical area designated as the Southern Water Use Caution Area ("SWUCA") by the Southwest Florida Water Management District ("SWFWMD"). The key to the water system is storage by utilizing off-stream reservoirs to capture a small percentage of seasonal high flows from the Peace River. This yields a reliable drinking water supply for the region while preserving the freshwater flow needed to support Charlotte Harbor estuary downstream. An additional off-stream reservoir at the Peace River Facility is needed to support regional economic growth and ensure that the needs of existing and future users are met. The expansion of the regional transmission system to create interconnectivity is also a key component in regional water resiliency. The Authority will submit State budget water project funding applications for Three projects, including the Phase 2B and Phase 3C regional transmission pipelines and the Reservoir No. 3 Project for inclusion in the State budget.

- Alternative Water Supply Funding

The State budget for FY 2022-2023 appropriated $50 million to establish a water resource development grant program to help communities plan for and implement conservation, reuse, and other water supply and water resource development projects. Priority funding will be given to regional projects in the areas of greatest need and for projects that provide the greatest benefit. The Department of Environmental Protection ("DEP") is to identify and research all viable alternative water supply resources and provide an assessment of funding needs critical to supporting Florida's growing economy.

- FY2022-23 Water Protection Funds – Resilient Florida Grant Program

Grant funding is available from the State through the DEP FY 2022-2023 Water Protection Funds – Resilient Florida Grant Program for projects that will improve infrastructure resiliency. Applications for this program were due August 30, 2022. The Authority will submit an application for FY 2022-2023 Water Protection Funds to support the Peace River Reservoir No. 3 Project.

- Funding of Trust Funds

State statute currently establishes trust funds through the Water Protection and Sustainability Program (Sections 403.890 and 403.891, Florida Statutes ("F.S.")) and West-Central Florida Water Restoration Action Plan (Section 373.0363, F.S.) that provide allocation of state funding through the water management districts. The Authority received funding through these trust funds in the past and supports funding for these trust funds in the State budget.

The Authority supports the allocation of State funds for water infrastructure without creating additional bureaucracy by establishing a state water board or council.

Potable Reuse Commission

The Florida Potable Reuse Commission ("PRC") is a coalition of a diverse group of water resource, industry, agricultural and health professionals. The purpose of the PRC was to create a consensus driven partnership to develop the framework for the implementation of potable reuse in Florida. The PRC published the 'Framework of the Implementation of Potable Water Reuse in Florida (January 2020). The framework will help advance potable reuse in Florida by augmenting future water supplies and protecting public health. The framework published by the PRC provide information for elected officials and regulatory agencies on statutory and regulatory needs. Recognition of reclaimed water as a source for potable supply and direction to DEP to initiate rulemaking to implement the PRC recommendations became law in 2020 as part of the Clean Waterways Act. In addition, Chapter 2021-168, Laws of Florida, declares that potable reuse is an alternative water supply and that potable reuse projects are eligible for alternative water supply funding. The exclusion of the use of potable reuse water from regional water supply planning is prohibited. It also authorizes DEP to convene and lead one or more technical advisory groups to coordinate the rulemaking and review of rules for potable reuse. DEP and the water management districts are also required, by December 31, 2023, to develop and execute a memorandum of agreement providing for the procedural requirements of a coordinated review of all permits associated with the construction and operation of an indirect potable reuse project. Although the Department initiated rulemaking in December 2021, potable reuse rules have not yet been adopted. Additional legislation may be proposed during the 20232 Session to address the delay in DEP rulemaking, and if rules are adopted prior to the Session, to address any revisions needed arising from DEP rulemaking, which Authority staff will monitor.

Aquifer Storage and Recovery ("ASR")

The Authority's ASR system provides an additional 6 billion gallons of storage through its operation of 21 ASR wells, which supplement water supply during the dry season when river withdrawal may be limited. Improvements to the ASR system has the potential to offer considerable cost savings, improve ASR recovery efficiency, and may also provide opportunities to obtain groundwater credits for over-recharging the Floridan Aquifer supporting environmental improvements in SWUCA. Authority staff will monitor legislation to ensure that any proposed legislation does not negatively impact the Authority and will support legislation that may help the Authority achieve desired improvements to its ASR system.

Chapter 373, Florida Statutes

Chapter 373, F.S., was reorganized in 2010 by Chapter 2010-225, Laws of Florida, which created a part VII relating to water supply policy, planning, production, and funding. In addition, statutory provisions related to regional water supply authorities and alternative water supplies were moved into this new part. Due to concerns regarding water planning and availability in certain parts of the state as well as the significant costs to meet Florida's future water demands, there is discussion regarding revising Chapter 373, F.S. during the 2023 Legislative Session. Authority staff will monitor any proposed Chapter 373, F.S., legislation to ensure that the Authority is not negatively impacted.

Blue-Green Algae Task Force and Stormwater Technical Advisory Committee Recommendations

In January of 2019, Governor DeSantis issued Executive Order Number 19-12, which directed the DEP to establish a Blue-Green Algae Task Force charged with expediting progress towards reducing nutrient pollution and the impacts of blue-green algae (cyanobacteria) blooms in the state. The task force's responsibilities included identifying priority projects for funding and making recommendations for regulatory changes. The five-person task force issued its first consensus document on October 11, 2019 and continue to meet to discuss other issues such as reclaimed water and stormwater.

In 2020, the Florida Legislature passed the Clean Waterways Act, which directed DEP and Florida's water management districts to update stormwater design and operation regulations under Part IV, Chapter 373, F.S., using the latest scientific information. DEP has created the Clean Waterways Act Stormwater TAC to provide a public forum for identifying and constructively outlining recommendations to DEP and water management districts for strengthening the stormwater design and operation regulations implemented under Part IV, Chapter 373, F.S., including updates to the Environmental Resource Permit Applicant's Handbook. Stormwater-related pollution represents one of the largest potential contributors of nutrients throughout the state.

Each year since the Clean Waterways Act, legislation to implement the remaining recommendations of the Blue-Green Algae Task Force has been unsuccessful. Authority staff will monitor any proposed legislation to ensure that the Authority is not negatively impacted.

Confirmation of Southwest Florida Water Management District Governing Board Members

Water Management District Governing Board members are appointed by the Governor, subject to confirmation by the Senate at the next regular session of the Legislature. The Authority supports the confirmation of the Governing Board members.

Local Government Operations

Every year, the Florida Legislature considers and passes laws that impact how the Authority operates,

such as revisions to purchasing, contracting, auditing, Florida Sunshine Laws, public records, websites, and noticing requirements. Authority staff will monitor any proposed legislation to ensure that the Authority is not negatively impacted.

Acquisition of Lands to Enhance Water Management and Supply

Public ownership of specific lands can offer benefits to both regional and local drinking water supply, protect existing water supply infrastructure and operations, and provide opportunities for development of future regional water supply projects on the RV Griffin Reserve to meet future public water supply needs of the region. Acquisition of specific lands in the vicinity of the Peace River Facility and RV Griffin Reserve can provide the opportunity for restoration and mitigation for new reservoir construction along with providing other significant public and environmental benefits in the region, including wildlife habitat connectivity, recreational opportunities, and enhanced flood protection.

Florida's Request to Assume Administration of a Clean Water Act Section 404 Program

The Clean Water Act ("CWA") established the Section 404 program, under which the U.S. Army Corps of Engineers ("Corps") may issue permits. On August 20, 2020, the Environmental Protection Agency received from the Governor of Florida, a complete program submission for the state to regulate the permit process within the jurisdiction of the state. Notice was published in the Federal Register on September 16, 2020 and on December 22, 2020, the U.S. Environmental Protection Agency ("EPA") published their approval of Florida's State 404 Program in the Federal Register. DEP began administering the State 404 Program on that date and now processes applications under Section 404 of the CWA within state-assumed waters, with the Corps processing Section 404 applications within retained waters. Based on the recent court decision related to the Waters of the United States ("WOTUS") Rule and proposed federal rulemaking discussed below, there may be additional revisions to this program as DEP must follow the rules related to WOTUS under the agreement with the Corps.

Per- and Polyfluoroalkyl Substances ("PFAS")

PFAS are a large and complex class of man-made chemicals that have been used in a wide variety of consumer products since the 1940s. These chemicals have been identified as Contaminants of Emerging Concern, which are chemicals that have been recently detected in the environment that may pose public health or ecological risks. In 2016, the U.S. Environmental Protection Agency ("EPA") established a lifetime exposure health advisory level of 70 parts per trillion for the combined concentration of perfluorooctanoic acid ("PFOA") and perfluorooctane sulfonate ("PFOS") in drinking water.

In June 2022, the U.S. EPA released updated health advisory levels for PFAS and PFOA which are well below the advisory levels established in 2016 and in fact are below modern detection limits. While treatment technology for removing PFAS from water is not well-developed, the more effective methods use technologies that are not conventionally available in existing water treatment plants, so removing these PFAS chemicals from water could require costly investments by local governments and other water suppliers. The U.S. EPA is currently evaluating establishment of maximum contaminant levels for PFAS and PFOA compounds. Monitoring of the U.S. EPA MCL process for PFAS and PFOA is recommended.

In addition, on September 6, 2022, the U.S. EPA published a proposed rule that designates PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. The rulemaking would require entities to immediately report releases of PFOA and PFOS that meet or exceed the reportable quantity to the National Response Center, the State of Florida, and local emergency responders. Entities would not be required to report past releases of PFOA or PFOS as they were not yet listed as hazardous substances. Monitoring of this rulemaking is recommended.

Although DEP has a Dynamic Plan to provide a coordinated approach to the complex issues associated with PFAS, which describes the development of screening and provisional cleanup target levels that are protective of human health and the environmental resources of Florida, DEP will not be adopting rules related to PFAS until at least 2025. Chapter 2022-203, Laws of Florida, requires DEP to adopt by rule statewide cleanup target levels for PFAS in drinking water, groundwater, and soil using specified statutory criteria, with priority given to PFOA and PFOS, if the U.S. EPA does not finalize its standards for PFAS in drinking water, groundwater, and soil by January 1, 2025. Any DEP rules are required to be ratified by the Legislature in order to take effect. In addition, until DEP's rule has been ratified by the Legislature, a governmental entity or private water supplier may not be subject to any administrative or judicial action brought by any state or local governmental entity to compel or enjoin site rehabilitation, to require payment for the cost of rehabilitation of environmental contamination, or to require payment of any fines or penalties regarding rehabilitation based on the presence of that particular PFAS constituent.

Authority staff will monitor any proposed PFAS legislation to ensure that the Authority is not negatively

impacted.

Tax-Exempt Financing

The Authority urges Congress to preserve the ability of water systems to use tax-exempt bonds to finance water infrastructure projects. This authority to finance essential governmental services on a tax-exempt basis is vital to the efforts of water utilities to continue to provide high quality, safe and reliable supplies of drinking water at a price that is affordable to ratepayers.

As Congress considers comprehensive tax reform, it must keep in mind that any new tax revenue collected from investors by limiting or eliminating tax-exempt municipal bonds would be offset by increased interest costs that would be borne by local water system ratepayers. Limiting or eliminating the exemption would therefore represent a de-facto tax hike on local communities while encumbering public agencies efforts to raise needed capital to address water supply needs.

Drinking Water Security and Treatment Mandates

The Authority recognizes that water utilities protect their critical facilities from acts of terrorism and other hazards. Drinking water utilities first responsibility is to protect public health by providing potable drinking water.

The Authority supports that the U.S. Environmental Protection Agency ("EPA") should continue to be the lead federal agency for security regulations at drinking water and wastewater facilities. Having more than one federal agency with oversight of water security could not only be inefficient, but would also impair the ability of drinking water systems to properly and efficiently treat their water supplies. It also could result in making simultaneous compliance with multiple standards or guidelines that will be difficult or even impossible to satisfy. If contradictory or duplicative security measures were recommended by different federal agencies, water systems would face difficulties in assuring compliance and could incur substantial costs with no real improvement in security.

Some water security programs include the collection of data from water providers. Given the sensitive nature of water security information, the Authority believes that Congress should continue the explicit prohibition on the disclosure of such information under federal, state, and local public information laws. Likewise, federal, state, and local agencies must take all internal precautions to prevent the inappropriate disclosure of water system information.

Any new federal security requirements should be accompanied by federal funding assistance. Such assistance could be targeted to help utilities update existing vulnerability assessments or implement other physical security without compromising public health. Otherwise, new security requirements will amount to unfunded federal mandates on local governments at a time when water treatment facilities are facing hundreds of billions of dollars in other priority infrastructure projects.

Climate Change

The Authority supports federal action to research and respond to the impacts of global climate change upon the nation's drinking water supplies. The long-term viability and sustainability of the nation's water supply is integral to a viable regional, state, and national economy and therefore a comprehensive, unified, and coordinated federal research program is essential for developing decision support tools, adaptation and mitigation strategies, and for helping local utility managers access better information on the regional impacts of climate change on drinking water quality and quantity. The EPA, the National Oceanic and Atmospheric Administration, and other federal departments and agencies currently conducting climate change research must increase their efforts to develop reliable modeling systems and regional projections of freshwater quality and quantity changes and offer clear guidance on how water utilities may prepare for changing climate conditions over the next several decades.

Climate change legislation must recognize that water resources and infrastructure in much of the United States are significantly threatened by changing hydrological conditions. Therefore, increased assistance and investment are necessary to help water systems adapt to changing climate conditions and deliver uninterrupted water service to rapidly growing service populations.

Waters of the United States

The EPA and the Corps signed the final rule for repealing the 2015 Waters of the United States rule ("WOTUS") on September 12, 2019. The EPA provided notice of a revised WOTUS in April 2020, with the rule streamlining the definition of "waters of the U.S.", providing clear exclusions, and providing additional definitions for terms used in WOTUS. The final rule became final on June 22, 2020. Apart from Colorado, due to a pending lawsuit and stay, WOTUS is being implemented. However, on August 30, 2021, Judge Rosemary Marquez of the U.S. District Court for the District of Arizona ruled that the Trump-era Navigable Waters Protection Rule ("NWPR"), which redefined the waters of the United States protected by the CWA, involved "fundamental, substantive flaws" that were in conflict with the purpose of the CWA. This ruling may alter the Federal 404 wetland dredge-and-fill permit program. The ruling effectively returns the definition of WOTUS to the pre-2015 regulatory regime until the Biden administration EPA issues new rules. The EPA issued a statement only days after the ruling indicating that in light of the Court's opinion, "the agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting 'waters of the United States' consistent with the pre-2015 regulatory regime until further notice." It appears that the EPA now considers both the Trump-era and Obama-era WOTUS rules to be vacated, and intends to enforce the CWA using the 2008 "Rapanos Guidance" issued by the Bush Administration following the Supreme Court's decision in Rapanos v. United States, 547 U.S. 715; 126 S.Ct. 2208; 165 L.Ed.2d 159 (2006). In addition, in June 2021, the EPA had announced that it was beginning the lengthy process of undoing the Trump NWPR by restoring the pre-2015 regulatory scheme and that it further intended to formulate a new WOTUS rule.

On November 18, 2021, the EPA and Corps issued a proposed rule to revise the WOTUS definition to put back into place the pre-2015 WOTUS definition, updated to reflect consideration of Supreme Court

decisions. Ten stakeholder roundtables were held across the country during May and June 2022 on the proposed rule.

Federal Funding for Water Infrastructure Projects

The U.S. Infrastructure Investment and Jobs Act became law on November 15, 2021, which includes $50 billion to the U.S. EPA to improve drinking water, wastewater, and stormwater infrastructure in the U.S., with a significant portion of the water infrastructure dollars being used for the Clean Water and Drinking Water State Revolving Funds ("SRFs"). The law provides $5 billion through the SRFs to reduce people's exposure to PFAS and other emerging contaminants through their drinking water and to help address discharges through wastewater and, potentially, nonpoint sources.

In June 2022, the EPA announced the funding availability for the agency's Water Infrastructure Finance and Innovation Act ("WIFIA") program and the State Infrastructure Financing Authority WIFIA ("SWIFIA") program. This year's funding will provide up to $6.5 billion in total funding to support water infrastructure projects. The notices of funding availability include $5.5 billion for the WIFIA program and an additional $1 billion for the SWIFIA program. This round of funding will prioritize funding in economically stressed communities; lead service line replacement; addressing PFAS and emerging contaminants; and supporting one water innovation and resilience.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 6, 2022

REGULAR AGENDA
ITEM 3

Authority Insurance Coverage Review & Property Insurance Renewal

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Presenters - Ann Lee, Finance and Budget Senior Manager
Michelle Martin, Senior VP, Brown & Brown

Recommended Action - **Motion** to approve renewal of Peace River Facility Property Insurance with Starr Tech/ACE for a not to exceed premium of $790,000 for the upcoming year (April 30, 2023 thru April 30, 2024), and authorize the Executive Director to continue negotiations for more favorable terms & conditions with Starr Tech/ACE.

The Authority's property insurance expires on April 30, 2023. Although 19 insurers from both the admitted and surplus markets were accessed, only 1 formal quote was received (from the current incumbent) for property insurance for the upcoming year. The Authority's independent insurance consultant, Brown & Brown reviewed the quotes and recommends continuing to negotiate prior to executing a renewal with the incumbent, Starr Tech/ACE.

The premium for the recommended 12-month policy (April 30, 2022 thru April 30, 2023) is $789,865. The 12-month policy premium reflects an 86.66% rate increase. The rate increase is primarily due to the continued response of the property insurance market to above average losses and unprofitable underwriting results as well as the Authority's currently open claim from Hurricane Ian. The current quote from StarTech also includes a reduction in the named windstorm limit from $60 million to $25 million, all other perils limit reduction from the total insured value ($144 million) to $25 million as well as change in the percent and application of the deductible from 3% on a per line-item basis from the Statement of Values to 5% of total insured value.

Funds are available in the FY 2023 budget for property insurance. Staff recommends Board approval to renew Peace River Facility Property Insurance with Starr Tech/ACE for a not to exceed premium of $790,000 for the upcoming year April 30, 2023 thru April 30, 2024 and authorize the Executive Director to continue to negotiate for more favorable terms and conditions with Starr Tech/ACE.

In addition to property insurance, the Authority also maintains general liability, cyberliability, workers compensation, pollution and auto coverages.

Budget Action: No action needed.

Attachments:
Tab A Presentation Materials
Tab B Recommendation Letter from Brown & Brown
Tab C Property Insurance Proposal 4/30/23 to 4/30/24
Tab D Property Statement of Values

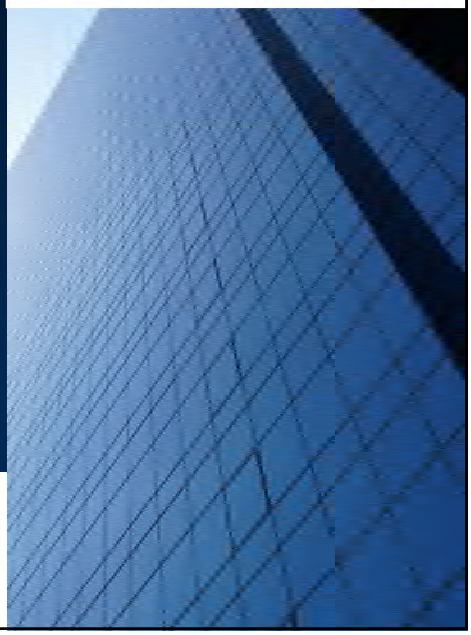
TAB A
Presentation Materials

Brown & Brown

PRMRWSA Property Insurance Renewal

Board of Directors Meeting - Charlotte County
April 5, 2023

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY



Presented By:
Michelle Y Martin, CIC – Senior Vice President

Brown & Brown Public Sector

1

Presentation Agenda

1. Current Insurance Program Review
2. Insurance Market Conditions
3. Property Market Options to 4/30/2023-24
4. Property Comparison to Expiring Terms
5. Recommendations

2

Insurance Coverage Overview – Property (Current)

LINE OF COVERAGE	LIMIT	DEDUCTIBLE/SIR	ANNUAL PREMIUM
Property: 4/30/22-4/30/23			
ACE American			
Buildings & Contents	$ 136,369,259	$ 50,000	
Named Windstorm	$ 60,000,000	3%/$250,000 minimum	
Flood including Storm Sturge	$ 5,000,000	3%/$250,000 minimum	
		Sub-Total	**$ 423,151**

3

Insurance Coverage Overview - Package

LINE OF COVERAGE	LIMIT	DEDUCTIBLE/SIR	ANNUAL PREMIUM
General Liability: 10/1/22-10/1/23			
National Union Fire			
General Liability Each Occurrence	$ 1,000,000	$ -	
General Aggregate	$ 3,000,000	$ -	
		Sub-Total	**$ 41,420**
Automobile: 10/1/22-10/1/23			
National Union Fire			
Auto Liability	$ 1,000,000	$ -	
Uninsured Motorist	$ 100,000	$ -	
Collision	Symbol 7, 8	$ 1,000	
Hired Physical Damage	Included	$100 Comp/$500 Collision	
		Sub-Total	**$ 38,317**
Public Officials: 10/1/22-10/1/23			
National Union Fire			
Public Officials Liability Each Occurrence	$ 1,000,000	$ 5,000	
Employment Practices Liability	Included	$ 5,000	
General Aggregate	$ 3,000,000		
Cyber Liability (Limited Coverage/Sublimits)	$ 1,000,000		
		Sub-Total	**$ 8,202**
Excess Liability: 10/1/22-10/1/23			
National Union Fire			
Excess Liability	$ 3,000,000		
		Sub-Total	**$ 21,653**

4

Insurance Coverage Overview – Other Policies

LINE OF COVERAGE	LIMIT	DEDUCTIBLE/SIR	ANNUAL PREMIUM
Crime: 10/1/2020-10/1/2023			
Travelers	**3rd Annual Installment**		
Employee Dishonesty	$ 500,000	$ 5,000	
Theft, Disappearance & Destruction In/Out	$ 500,000	$ 5,000	
Computer Fraud	$ 500,000	$ 5,000	
Funds Transfer	$ 500,000	$ 5,000	
Forgery/Alterations	$ 500,000	$ 5,000	
		Sub-Total	**$ 3,185**
Workers' Compensation: 10/1/22-10/1/23			
Preferred Govt'l Ins Trust			
	Experience Mod: .83		
Workers' Compensation	Statutory	$ -	
Employers Liability	$1m/$1m/$1m	$ -	
		Sub-Total	**$ 72,327**
Pollution: 10/1/22-10/1/23			
Indian Harbor			
Each Pollution Condition/Aggregate	$ 1,000,000	$ 25,000	
Terrorism			
		Sub-Total	**$ 16,027**
Cyber Liability: 10/1/22-10/1/23			
Coalition Program			
Coverage information is subject to protection (HB7057)			
		Sub-Total	**$ 22,151**

5

History

- Brown & Brown Public Sector (f/k/a PRIA) since prior to 2005
- Partnership with Starr Tech/Chubb-ACE since Expansion Project/Res #2
- Changes indicated last year; Valuation
- Hurricane IAN - PRMWSA is Hit



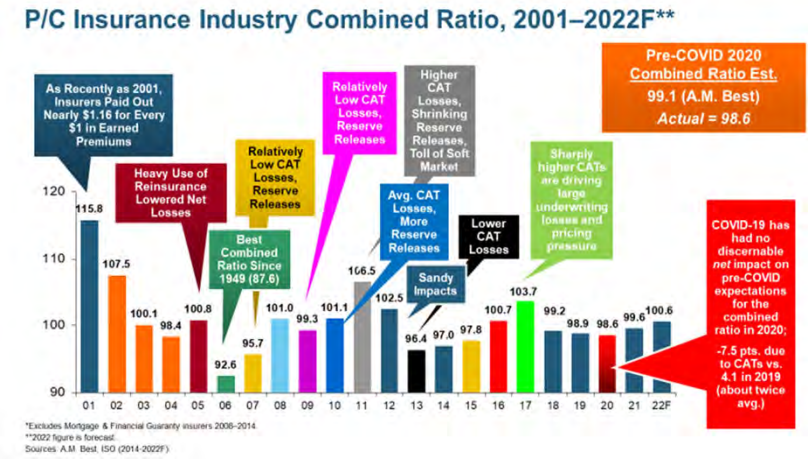
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Market Conditions - Carrier Financial Results

P&C CARRIER FINANCIAL RESULTS

Combined Ratios (Incurred Losses + LAE/Earned Premium)

- A decade of break-even results
- 2022 Forecast Combined Ratio @ 1.04 (significant underwriting loss)



7

Market Conditions – Key Market Drivers

01 Inflation and claims; inflation and valuations; inflation and (re)insurance limits

02 Hurricane Ian – 2nd Largest Storm ever?

03 1/1/2023 – US Natural Catastrophe Treaties

04 Pressure from capital providers to improve return on capital

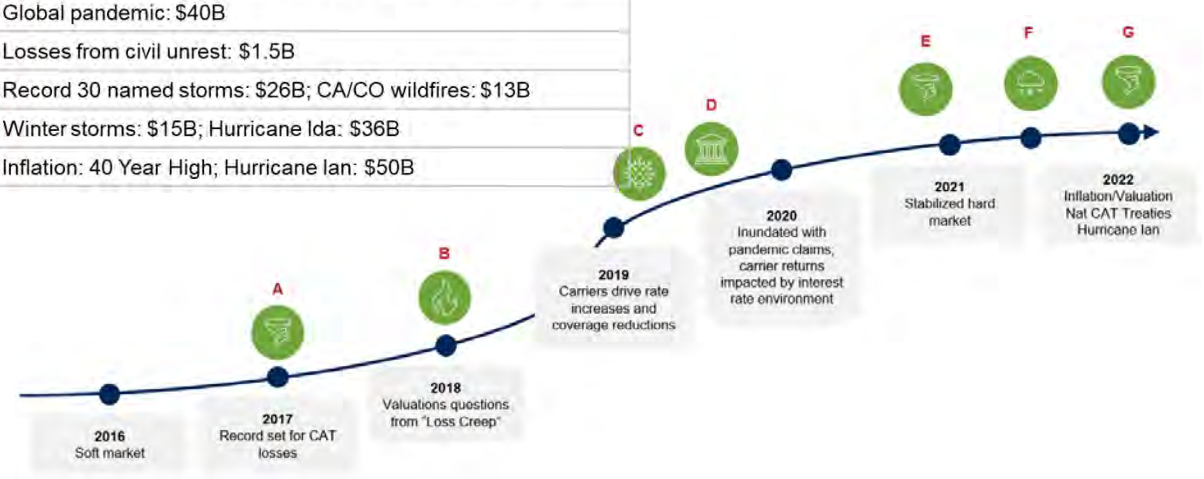
05 Underwriting in the age of climate change; rate adequacy

Going into 2023, it is imperative that property underwriting information continue to be as detailed as possible. The statement of values and replacement costs should be analyzed for accuracy before submission to minimize questions and delays.

8

Market Conditions – Claims Market Driver

A	Hurricanes Harvey, Irma and Maria: $88B; CA wildfires: $12B
B	Hurricanes Florence and Michael: $15B; CA wildfires: $11B
C	Global pandemic: $40B
D	Losses from civil unrest: $1.5B
E	Record 30 named storms: $26B; CA/CO wildfires: $13B
F	Winter storms: $15B; Hurricane Ida: $36B
G	Inflation: 40 Year High; Hurricane Ian: $50B

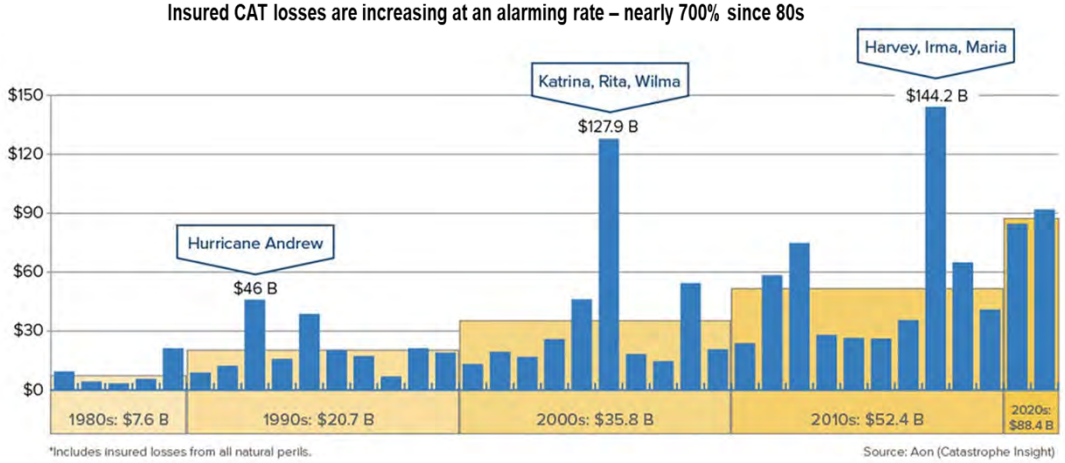


9

Market Conditions – 40 Years' CAT Claims

The insurance marketplace has experienced 5+ years of overall rate increases providing hard market conditions, including rate increases and unfavorable changes in terms and conditions.

Insured CAT losses are increasing at an alarming rate – nearly 700% since 80s



*Includes insured losses from all natural perils.

Source: Aon (Catastrophe Insight)

10

4/30/23-4 Property Market Options for PRMWSA

A **Total of 19 insurers** were approached to provide bids/quotes, results are summarized below:

INSURER	STATUS/RESPONSE:
Starr Tech/ACE: $25M Primary	Incumbent – Quoted 80% rate increase; including 3.85% property value trend, PLUS increased FIGA surcharge and increased Terrorism costs. Total all Costs: $789,865. Changes in terms and conditions include: Stated Value vs Blanket, $100,000 AOP Deductible vs $50k/$25k; 5% of TIV NWS vs 3% Per Unit; $1M Minimum NWS vs $250k. Limit $25M vs $60M/TIV.
***Broker Expectation:* $5M XS $25M**	Possible for 2 Excess Insurers with $2.5M each, $50k each layer: $100,000 estimated additional premium.
***Broker Expectation*: $10M Primary**	Possible for more than one Insurers to share in risk for $10M limit: $650,000 estimated premium
***Broker Expectation:* $25M Primary**	If capacity available from multiple insurers, estimate for $25M limit: Excess of $1,000,000+ estimated premiums

11

Comparison to Expiring Terms

PREMIUM – Not To Exceed (NTE)*

**We will continue to negotiate premium, terms and conditions until binding.*

As of 3/17/2023	Expring Policy	INCUMBENT RENEWAL QUOTE (NTE)
	Starr Tech - Ace American 4/30/2022-4/30/2023	**Starr Tech - Ace American 4/30/2023-4/30/2024**
Property Premium		
Total Premium, Terrorism, FIGA, Engineering	$ 423,152	$ 789,865
COST Difference from Expiring/Renewal		**$ 366,713** **86.66%**

12

Comparison to Expiring Terms

DEDUCTIBLES

As of 3/17/2023	Expring Policy	INCUMBENT RENEWAL QUOTE (NTE)
	Starr Tech - Ace American 4/30/2022-4/30/2023	**Starr Tech - Ace American 4/30/2023-4/30/2024**
Property Deductibles		
"All Other Perils"	$ 50,000	**$ 100,000**
Contractors/Mobile Equipment	$ 25,000	**$ 100,000**
Named Windstorm or Wind/Hail	**Named Windstorm 3% TIV of the units of insurance damaged; $250,000 per Occurrence Minimum**	**Named Windstorm 5% OF TOTAL TIV; $1,000,000 per Occurrence Minimum**
Named Windstorm Deductible Amount	Estimated deductible For IAN damaged locations: $1,026,584 Bldg + $628,726 Cnts = $1,655,310	**$ 7,084,599**
Flood (non A and V zones)	$ 50,000	**$ 100,000**
BI, EE, Off Premises Power	120 Hours	120 Hours

13

Comparison to Expiring Terms

LIMITS & OTHER TERMS AND CONDITIONS

As of 3/17/2023	Expring Policy	INCUMBENT RENEWAL QUOTE (NTE)
	Starr Tech - Ace American 4/30/2022-4/30/2023	**Starr Tech - Ace American 4/30/2023-4/30/2024**
Limits		
Total Insured Values (TIV)	**$ 138,369,259**	**$ 143,691,986**
TIV Difference From Expiring	**$ 17,161,781 14.16%**	**$ 5,322,727 3.85%**
	TIV increase due to ENR CCI trend update.	*TIV increase due to ENR CCI trend update on Buildings of 6%.*
Coverage Extensions/Sublimits		
All Other Perils, Except:	$ 138,369,259	**$ 25,000,000**
Named Windstorm	$ 60,000,000	**$ 25,000,000**
Named Windstorm Definition	Flood/Storm Surge are "Flood"	Flood/Storm Surge are "Flood"
Flood (Non A and V Zones) - Aggregate	$ 5,000,000	$ 5,000,000
Sinkhole - Aggregate	$ 10,000,000	$ 10,000,000
Boiler and Machinery	Included	Included
Time Element Loss Payment	Actual Loss Sustained	Actual Loss Sustained
Building/Contents Loss Payment	Replacement Cost/ACV 2.5 years	Replacement Cost/ACV 2.5 years
Building/Contents Loss Valuation	Blanket	**Per Schedule**
Certified Terrorism	Included	Included
Non-Certified Terrorism	Included	Included
Owned Water Transmission Lines	$ 5,580,457 Locations throughout DeSoto, Manatee, Sarasota & Charlotte County, FL	$ 5,580,457 **Only at locations scheduled on the policy**
Subaqueous Line Above Water Air Relief Valves (Charlotte Harbor, Punta Gorda, FL)	$ 250,000	$ 250,000
$5 million Reservoir Value (In/Outlet Tower, Ancillary Spillway, Electric & ADAS components only)	Included	Included

14

Recommendation

Renew with Starr Tech, Incumbent

- Ongoing IAN Claim Adjustment
- Historical Partnership with Carrier
- $25M limit option is best pricing and coverage
- Assuming no better negotiation development in the market prior to 4/30/2023



15

Motion:

To approve renewal of Peace River Facility Property Insurance with Starr Tech/ACE for a not to exceed premium of $790,000 for the upcoming year (April 30, 2023 thru April 30, 2024) and authorize the Executive Director to continue negotiations for more favorable terms/conditions with Starr Tech/ACE.

16


QUESTIONS?
AND
THANK YOU!
Brown & Brown
Any solicitation or invitation to discuss insurance sales or servicing is being provided at the request of Brown & Brown Public Sector, an owned subsidiary of Brown & Brown, Inc. Brown & Brown Public Sector, only provides insurance related solicitations or services to insureds or insured risks in jurisdictions where it and its individual insurance professionals are properly licensed.
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17

TAB B
Recommendation Letter from Brown & Brown

Brown & Brown
BBrown.com

Risk Management Associates, Inc.
300 North Beach Street
Daytona Beach, FL 32114
P: (386) 252-6176 | F: (386) 239-4049

Ms. Ann Lee, MBA, CGFO
Finance & Budget Senior Manager
Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, FL 34202

March 16, 2023

RE: Property Renewal effective 4/30/2023-24

Dear Ann:

The Property Insurance renewal to be effective 4/30/2023-24 covers approximately $144 million of assets owned by PRMRWSA, subject to policy sublimits, terms and conditions. Due to the current state of inflation, increases in labor and materials costs, the building structure values were increased by 6% utilizing ENR CCI historical rates. The resulting increased insurance replacement cost values is just over $5.3 million or 3.85%.

The international property re/insurance marketplace continues to respond to an unique economic environment, years of unprofitable underwriting results, and specifically to an undetermined but estimated $60 billion industry loss following Hurricane Ian in 2022, the second largest insured catastrophe claim in history. Property rates increases have accelerated to double-digits in 2023, even for portfolios without recent loss activity. In addition, we are also experiencing significant reductions in coverage terms and conditions. Within our Property Proposal, we have included a section with further analysis and statistics concerning the current market trends.

Properties in Florida, and specifically those with pending IAN losses are in particular peril.

Although Brown & Brown accessed 19 insurers in both admitted and surplus markets, we only obtained a formal quote from the incumbent. Only indications from the surplus market have been provided, as they have even less favorable terms and conditions.

We have presented herein a recommendation of a Not To Exceed (NTE) Premium for the Incumbent, subject to our continued negotiations with both the incumbent and the marketplace.

EXPIRING - Effective 4/30/2022-2023
$423,152 – Starr Tech/Ace (specialty utility insurer) Premium, including fees/assessments
- $60M Named Windstorm Limit
- Named Windstorm Deductible – 3% per each Unit of Insurance

RENEWAL - Incumbent – To Be Effective 4/30/2023-2024
$789,865 – Starr Tech/Ace Premium, including fees/assessments (79.75% increase)
- $25M Named Windstorm Limit
- Named Windstorm Deductible – 5% of TIV
- Other unfavorable terms and conditions as outlined on the Exhibit

RENEWAL – Other Options
- Open market indications for $10M limit could produce savings of $125,000 (~15%) less premium, however limits are $15M less (60%).
- Open market indications for $25M limit are for 20% higher premiums
- Additional $5M excess of $25M indicated at $100,000 additional premium

Brown & Brown
BBrown.com

Risk Management Associates, Inc.
300 North Beach Street
Daytona Beach, FL 32114
P: (386) 252-6176 | F: (386) 239-4049

Ms. Ann Lee, MBA, CGFO
Finance & Budget Senior Manager
Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, FL 34202

March 16, 2022

RE: Property Renewal effective 4/30/2023-24

Recommendation: Renew and continue to negotiate with Starr Tech/Ace American property program to maintain the broadest coverage and overall best value.

Sincerely,

Michelle

Michelle Y. Martin, CIC
Sr. Vice President, Public Risk Advisor

2 Exhibits attached

Exhibit: PRMWSA Property Insurance Quotes/Marketing Results

2023 has proved to be the most difficult property market and renewal in PRMWSA's history due to a global unprofitable underwriting results in 2022 (including a $60B industry loss for IAN), and a pending IAN loss payment for the Authority.

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(**Total of 19 insurers**) to provide bids/quotes for the Authority's Property renewal.

INSURER	STATUS/RESPONSE:
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James River	Only currently able to attach above $10m in excess position
Westfield	May offer $2.5M capacity; pricing not competitive with incumbent
AmRisc	Unable to come close to pricing/terms of the incumbent carrier.
Aspen	May offer $1.5M capacity in $15M xs $10M layer
Navigators	Pending response.
Axis	Not quoting new primary business in Florida.
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StarStone	Would be well over current primary pricing.
Lloyds of London	Various syndicates commented: cannot compete with Incumbent.

Exhibit: Expiring to Renewal Comparison

As of 3/17/2023	Expring Policy	INCUMBENT RENEWAL QUOTE (NTE)
Important Terms	**Starr Tech - Ace American 4/30/2022-4/30/2023**	**Starr Tech - Ace American 4/30/2023-4/30/2024**
PROPERTY	Annual Policy	
Total Premium, Terrorism, FIGA, Engineering	$ 423,152	$ 789,865
Cost Difference	**9.73%**	**79.75%**
COST Difference from Expiring/Renewal		**$ 366,713** **86.66%**
Property Deductibles		
"All Other Perils"	$ 50,000	**$ 100,000**
Contractors/Mobile Equipment	$ 25,000	**$ 100,000**
Named Windstorm or Wind/Hail	**Named Windstorm 3% TIV of the units of insurance damaged; $250,000 per Occurrence Minimum**	**Named Windstorm 5% OF TOTAL TIV; $1,000,000 per Occurrence Minimum**
Named Windstorm Deductible Amount	Estimated deductible For IAN damaged locations: $1,026,584 Bldg + $628,726 Cnts = $1,655,310	**$ 7,084,599**
Flood (non A and V zones)	$ 50,000	**$ 100,000**
BI, EE, Off Premises Power	120 Hours	120 Hours
Limits		
Total Insured Values (TIV)	**$ 138,369,259**	**$ 143,691,986**
TIV Difference From Expiring	**$ 17,161,781** **14.16%**	**$ 5,322,727** **3.85%**
	TIV increase due to ENR CCI trend update.	*TIV increase due to ENR CCI trend update on Buildings of 6%.*
Coverage Extensions/Sublimits		
All Other Perils, Except:	$ 138,369,259	**$ 25,000,000**
Named Windstorm	$ 60,000,000	**$ 25,000,000**
Named Windstorm Definition	Flood/Storm Surge are "Flood"	Flood/Storm Surge are "Flood"
Flood (Non A and V Zones) - Aggregate	$ 5,000,000	$ 5,000,000
Earthquake - Aggregate	$ 10,000,000	$ 10,000,000
Sinkhole - Aggregate	$ 10,000,000	$ 10,000,000
Boiler and Machinery	Included	Included
Time Element Loss Payment	Actual Loss Sustained	Actual Loss Sustained
Building/Contents Loss Payment	Replacement Cost/ACV 2.5 years	Replacement Cost/ACV 2.5 years
Building/Contents Loss Valuation	Blanket	**Per Schedule**
Certified Terrorism	Included if Purchased	Included if Purchased
Non-Certified Terrorism	Included if Purchased	Included if Purchased
Owned Water Transmission Lines	$ 5,580,457	$ 5,580,457
	Locations throughout DeSoto, Manatee, Sarasota & Charlotte County, FL	Locations throughout DeSoto, Manatee, Sarasota & Charlotte County, FL
Subaqueous Line Above Water Air Relief Valves (Charlotte Harbor, Punta Gorda, FL)	$ 250,000	$ 250,000
$5 million Reservoir Value (In/Outlet Tower, Ancillary Spillway, Electric & ADAS components only)	Included	Included

TAB C
Property Insurance Proposal 4/30/2023 – 4/30/2024

Brown & Brown

PUBLIC SECTOR

Property Insurance Proposal

April 30, 2023 – April 30, 2024

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY



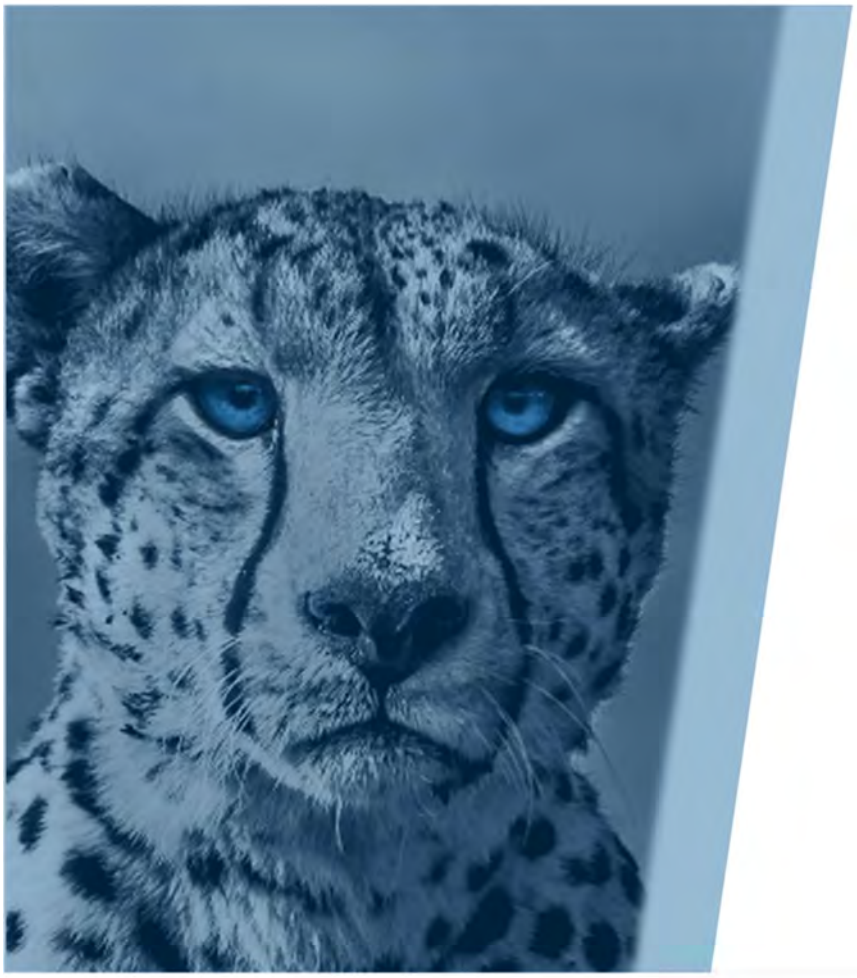
Table of Contents

Overview 1
- The Agency of Brown & Brown, Public Sector
- An Introduction to Your Service Team
- Marketing Results
- Insurance Market Trends

Property 2

Broker Recommendation/Premium Recapitulation 3
- Notes of Importance
- Compensation Disclosures
- Carrier Financial Status
- Guide to Best's Ratings

Items Required Prior to Binding 4
- Acceptance of Proposal – Premium Recapitulation
- TRIA Forms (Provided at Binding)



Our Story

Brown & Brown, Public Sector is a proud member of the Brown & Brown family – an 83-year-old, publicly traded, Florida corporation currently ranked as the 5th largest insurance brokerage in the United States of America. Our Brown & Brown family is now more than 11,000 teammates, spanning from London to Los Angeles. Through our collaborative efforts, we design, place, and service more than $20 Billion in annual insurance products. We passionately undertake these efforts on behalf of our clients – ranging from individuals and small businesses, to state governments and Fortune 500 companies.

The Brown & Brown, Public Sector team is a highly-specialized unit of insurance advisors 100% trained to deliver industry-leading services to public entities in the State of Florida. Since 1992, we have continuously refined that specialization and enhanced our services, while becoming the largest public entity brokerage in Florida. Our team provides Property & Casualty and Employee Benefits services to governments from Key West to the Panhandle and represents more than 200 clients.

We have proven over nearly three decades of service to local governments that we are a highly sophisticated and accountable team of insurance professionals, laser-focused on providing both world-class brokerage services and concierge-level support to our clients. We have built our reputation by empowering our governmental clients to outperform their industry peers, lower their cost of risk, and enhance their employee benefits programs - all while staying within their annual budgetary constraints. Our team is committed to serve those who serve the public – and provide superior service to our clients, their staff, and their employees.

This proposal is intended to give a brief overview. Higher limits may be available. Please refer to coverage forms for complete details regarding definition of terms, exclusions and limitations.

Peace River Manasota Regional Water Supply Authority

Brown & Brown

An Introduction to Your Service Team

Account Executives		
Matt Montgomery Executive Vice President	(386) 239-7245	Matt.Montgomery@bbrown.com
Robin Russell, ARM-P, CISR, CSRM Director of Operations	(386) 239-4044	Robin.Russell@bbrown.com
Paul Dawson, ARM-P Senior Vice President / Public Risk Advisor	(386) 239-4045	Paul.Dawson@bbrown.com
Michelle Martin, CIC Senior Vice President / Public Risk Advisor	(386) 239-4047	Michelle.Martin@bbrown.com
Kyle Stoekel, ARM-P, CIC Public Risk Advisor	(386) 944-5805	Kyle.Stoekel@bbrown.com
Bill Wilson Public Risk Advisor	(386) 333-6058	Bill.Wilson@bbrown.com
Victoria "Tori" Reedy Executive Coordinator	(386) 239-4043	Tori.Reedy@bbrown.com
Nicholas "Nick" Van Nostrand Account Executive	(321) 214-2377	Nicholas.VanNostrand@bbrown.com
Service Representatives		
Emily Bailey Public Risk Specialist	(386) 333-6085	Emily.Bailey@bbrown.com
Melody Blake, ACSR Public Risk Specialist	(386) 239-4050	Melody.Blake@bbrown.com
Taylor Brodeur Public Risk Specialist	(386) 361-5225	Taylor.Brown@bbrown.com
Danielle Coggon, CIC, CISR Public Risk Specialist	(386) 239-4048	Danielle.Coggon@bbrown.com
Schylar Howard Public Risk Specialist	(386) 265-6117	Schylar.Howard@bbrown.com
Patricia "Trish" Jenkins, CPSR Public Risk Specialist	(386) 239-4042	Trish.Jenkins@bbrown.com
Alexa Gray, AIC Public Risk & Claims Specialist	(386) 333-6068	Alexa.Gray@bbrown.com

Certificate Requests: 179.certificates@bbrown.com
Claim Reporting: 179.claims@bbrown.com

Our Service Team philosophy focuses on accountability at all levels of account management. Our goal is not simply to meet your service needs, but to exceed them. All the employees at Brown & Brown are dedicated to achieving this goal and distinguishing ourselves from the competition.

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PRMWSA Property Insurance Quotes/Marketing Results

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Insurance Market Trends

Q1 2023 US Property Trends

- Initially, markets projected stabilized rates and easing for well-protected, loss-free property risks. However, losses from natural disasters in Q 4 2022 (Hurricanes Ian and Nicole, Winter Storm) has accelerated rate increases again.
- Programs with unfavorable loss history and locations exposed to catastrophic weather events should anticipate 25%-50%+ rate increases.
- The hardening of the facultative market impacts the underwriting process – submissions must be newly underwritten due to new standards and conditions, which inherently causes the process to take longer.
- Failure to account for ongoing inflation and increased costs due to the skilled labor shortage call certain values into question.

Themes:

- CAT weather events
- Global Inflation
- Valuations
- Reinsurance
- Interest Rates

Key Insurance Market Drivers

01 Inflation and claims; inflation and valuations; inflation and (re)insurance limits

02 Hurricane Ian – 2nd Largest Storm ever?

03 1/1/2023 – US Natural Catastrophe Treaties

04 Pressure from capital providers to improve return on capital

05 Underwriting in the age of climate change; rate adequacy

This proposal is intended to give a brief overview. Higher limits may be available. Please refer to coverage forms for complete details regarding definition of terms, exclusions and limitations.

Insurance Market Trends

Insured CAT losses are increasing at an alarming rate:
Nearly 700% since the 1980's



Impacts of Inflation:

Going into 2023, it is imperative that property underwriting information continue to be as detailed as possible. The Statement of Values (SOV) and asset replacement costs should be analyzed and updated before submission.

Underwriter Actions to Drive Higher Values:

Decide to not participate if values are below their metrics
Increase rate artificially to get to the premium level desired
Tie limits to values reported (Occurrence limit of liability endorsements are trying to make a resurgence but have not been forced to any large extent to commercial buyers)

Insurance Market Trends

P&C CARRIER FINANCIAL RESULTS

Combined Ratios (Incurred Losses + LAE/Earned Premium)

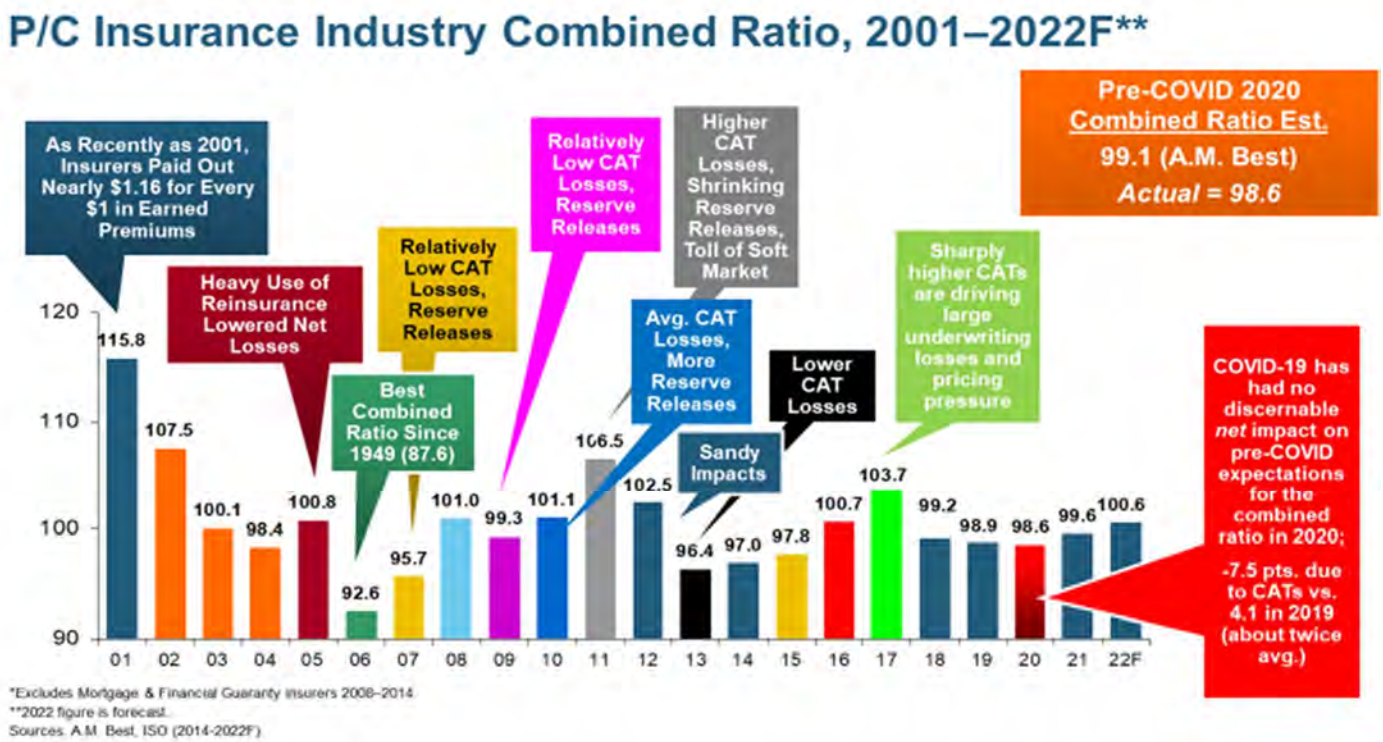
- A decade of break-even results even when including the more profitable personal auto, workers compensation and small business lines
- Large account property, excess casualty, and D&O lines are under pressure and have underperformed

2023 FINANCIAL PROJECTIONS

- US P&C Combined Ratio – 100%+ (before Hurricanes Ian & Nicole)
- Hurricane Ian – $60B Estimated Insured Loss
- Hurricane Nicole - $2B Estimated Insured Loss

These combined ratios include all lines for personal, small and mid-sized businesses as well as large accounts. Stripping out personal auto and small business would make Large Account P&C results look much worse. Insurance company executive leadership teams are focused on improving large account profitability which is at least partially driving the hardening market conditions.

**Excludes mortgage and financial guaranty insurers; source: A.M. Best; ISO, a Verisk Analytics® Business; NAIC data from S&P Global Intelligence; I.I.I.*



Utilities Property

Term:	April 30, 2023 to April 30, 2024
Company:	ACE American Insurance Company (Rated A++ XV by A.M. Best)
Starr Tech Participation:	100%
Form:	Starr Tech benchmark form plus endorsements
Coverage:	All Risk of direct physical loss or damage, covering Property Damage, Business Interruption, Extra Expense, and Boiler & Machinery

Values (per schedule on file)	
$141,691,986	Property Damage
$1,000,000	Business Interruption
$1,000,000	Extra Expense
$143,691,986	**Total Insured Value**

Policy Limit of Liability	
$25,000,000	Any One Occurrence

Valuation

This company's liability for loss under this policy for real and personal property (excluding stock) shall not exceed the smallest of the following amounts:

1. The amount of this policy.
2. The replacement cost of property or any part thereof, identical with property described herein, at the same location and intended for the same occupancy and use;
3. The amount actually and necessarily expended in repairing or replacing the property described herein, or any part thereof, at the same location, or another location, and intended for the same occupancy and use.
4. Actual Cash Value if the property is not repaired or replaced within 2.5 years.

Time Element Coverages: Actual Loss Sustained

This proposal is intended to give a brief overview. Higher limits may be available. Please refer to coverage forms for complete details regarding definition of terms, exclusions and limitations.

Utilities Property

Sublimits Sub-limits are per occurrence unless shown otherwise. The sub-limits below are part of and not in addition to the Policy Limit of Liability. Sub-limits are 100% and are subject to Starr Tech percentage participation.	
$10,000,000	Earthquake, Annual Aggregate
$10,000,000	Sinkhole, Annual Aggregate, except:
No Coverage	California Earthquake/Earth Movement
$5,000,000	Flood, Annual Aggregate (Includes Storm Surge)
$1,000,000	Flood (100 Year Flood Zones), Annual Aggregate
$25,000,000	Named Windstorm
$250,000	Accounts Receivable
$2,500,000	Automatic Coverage
$1,000,000	Business Interruption
$500,000	Contractor's Equipment
$1,500,000 or 25% of the loss, whichever is greater	Debris Removal
$1,500,000	EDP Equipment & Media
$250,000	Expediting Expense
$1,000,000	Extra Expense
$500,000	Fine Arts
$1,000,000	Increased Cost of Construction, Demolition
$50,000	Off Premises Foam & Firefighting Expense
$100,000	Off Premises Power
$100,000	Pollution Real & Personal, Annual Aggregate
$5,580,457	PRMWSA Owned Water Transmission Lines (various locations as their interest may appear throughout Desoto, Manatee, Sarasota & Charlotte County, FL)
$250,000	Subaqueous Line Above Water Air Relief Values (Charlotte Harbor, Punta Gorda, FL)
$100,000	Temporary removal of property
$100,000	Transit
$500,000	Unnamed locations
$1,000,000	Valuable papers

This proposal is intended to give a brief overview. Higher limits may be available. Please refer to coverage forms for complete details regarding definition of terms, exclusions and limitations.

Utilities Property

Boiler & Machinery Endorsement	
$100,000	Ammonia Contamination (B&M), Any One Accident
$1,000,000	Business Interruption (B&M), Any One Accident
$100,000	Consequential Damage (B&M), Any One Accident
$100,000	Expediting Expenses (B&M), Any One Accident
$1,000,000	Extra Expense (B&M), Any One Accident
$100,000	Hazardous Substances (B&M), Any One Accident
$100,000	Water Damage (B&M), Any One Accident

Deductibles:
All deductibles listed below are per occurrence except with respect to coverage provided for Boiler & Machinery which shall be any One Accident.

Property Damage: $100,000 except

Flood (Zones A & V and all Subzones including Storm Surge): 5% of the Property Damage Total Insurable Values at the time of loss; subject to a minimum of $1,000,000

Named Windstorm: 5% of the Property Damage Total Insurable Values at the time of loss; subject to a minimum of $1,000,000

Time Element (including but limited to):

Business Interruption: 120 hours per occurrence
Extra Expense: 120 hours per occurrence
Off Premises Power: 120 hours per occurrence

As respects real and personal property, all claims for loss, damage or expense arising out of any one occurrence shall be adjusted as on claim and from the amount of each such adjusted claim there shall be deducted the sum stated on the Declaration Page.

Deductibles for Property Damage and Time Element shall be applied separately.

This proposal is intended to give a brief overview. Higher limits may be available. Please refer to coverage forms for complete details regarding definition of terms, exclusions and limitations.

Utilities Property

Additional Terms and Conditions, include but are not limited to:

1. Coverages and/or Extensions of Coverage not specifically mentioned, even though they may be outlined in your submission, are not included.
2. Premium to be paid in full within 30 days of inception.
3. Business Interruption coverage shall only apply to the 8998 SW County Road 769 scheduled main water treatment location.
4. 72 Hour Occurrence Definition applies to Wind, Flood, Earthquake and Riot.
5. Electrical transmission and distribution lines located beyond 1,000 feet from any Insured's locations are excluded.
6. Concrete reservoirs and underground pipes and pipelines are covered at Locations covered by this policy.
7. Signed Terrorism election forms to be received within 30 days of effective date.
8. Signed Statement of Property Values to be provided within 30 days of effective date.
9. This quotation is subject to change at any time prior to binding if any new losses not previously reported are incurred, whether from natural catastrophe or any other insured cause of loss.
10. The following endorsements/Additional Endorsements will attach to and form part of the form:
    a. Chubb USA Property Declarations
    b. Common Policy Conditions
    c. Commercial Property Conditions
    d. OFAC Advisory Notice to Policyholders
    e. Schedule of Forms and Endorsements
    f. ST AR 100 Declarations
    g. ST AR 200 General Conditions
    h. ST AR 300 Property
    i. ST AR 400 Business Interruption
    j. Schedule of Locations
    k. Accounts Receivable Endorsement
    l. Agreed Amount Endorsement – PD
    m. Agreed Amount Endorsement - BI
    n. Authorities Endorsement
    o. Automatic Coverage Endorsement
    p. Biological or Nuclear Materials Exclusion
    q. Boiler and Machinery Endorsement
    r. Cancellation Modification Endorsement
    s. Designated Region or Country Exclusion
    t. Earthquake Endorsement
    u. Electronic Data/Medial Exclusion
    v. Electronic Data Processing Endorsement
    w. Expediting Expense Endorsement
    x. Extra Expense Endorsement
    y. Fine Arts Endorsement
    z. Flood Endorsement
    aa. Increased Cost of Construction and Demolition Endorsement
    bb. Millennium Endorsement (Combined Property/Boiler & Machinery)

Utilities Property

Additional Terms and Conditions, include but are not limited to:

10. The following endorsements/Additional Endorsements will attach to and form part of the form, continued:

cc.	Mold Exclusion
dd.	Named Windstorm Definition
ee.	Occurrence Limit of Liability Endorsement
ff.	Office Premises Foam & Fire Fighting Expense Endorsement
gg.	Off Premises Power Endorsement - BI
hh.	Political Risk Exclusion
ii.	Property Excluded Endorsement
jj.	Replacement Cost Endorsement
kk.	Sinkhole Endorsement
ll.	Temporary Removal of Property Endorsement
mm.	Terrorism Endorsement (Form #61333)
nn.	Time Element Definition
oo.	Trade & Economic Sanctions Endorsement
pp.	Transit Endorsement
qq.	Unnamed Locations Endorsement
rr.	Valuable Papers Endorsement
ss.	Bridge Wording Endorsement
tt.	Signatures Endorsement
uu.	State Amendatory Notices
vv.	Claims Notification

Premium Recapitulation

	Annual Premium	Check Option Accept	Check Option Reject
Utility Property			
Premium	$750,000.00		
Engineering Fee	$6,500.00		
Florida Insurance Guaranty Assessment	$15,361.00		
Florida State Surcharge	$4.00		
Total Premium	**$771,865.00**	☐	☐
Optional - Certified Terrorism	$16,200.00	☐	☐
Optional - Non-Certified Terrorism	$1,800.00	☐	☐

I authorize Brown & Brown to request the underwriters to bind coverage on the items indicated above and acknowledge receipt of the Compensation and Financial Condition Disclosure(s) provided in this proposal.

_____
(Signature)

_____
(Name & Title)

_____
(Date)

Notes of Importance:

1. Quotes provided in the proposal are valid until 04/30/2023. After this date terms and conditions are subject to change by the underwriters.

2. Premiums are subject to change if all lines of coverage quoted are not bound. **Premiums are subject to 25% minimum premium upon binding.**

3. Not all coverages requested may be provided in this quotation.

4. Flood quotes from NFIP may be available. Please advise your agent if you have property located in zones A or V and would like to have separate NFIP quotes.

5. Property values are based on information supplied by you. You should have reviewed your property schedule and as you deem necessary have appraisals done to verify your reported values are accurate based on current market conditions.

6. **The total premium is due within 30 days of inception. Premium financing can be arranged if needed.**

7. Quote is not bound until written orders to bind are received from the insured and the Company subsequently accepts the risk.

8. Should signed application reveal differing details/data than original application received, the entire quote/binder is subject to revision and possible retraction.

9. Higher limits of liability may be available. Please consult with your agent.

10. This proposal is based upon exposures to loss made known to the Brown & Brown. Any changes in exposures (i.e. new operations, new acquisitions of property or change in liability exposure) need to be promptly reported to us in order that proper coverage may be put into place.

11. **This proposal is intended to give a brief overview. Please refer to coverage agreements for complete information regarding definition of terms, deductibles, sub-limits, restrictions and exclusions that may apply. In the event of any differences, the policy will prevail.**

Retail Compensation Disclosure

In addition to the commissions or fees received by us for assistance with the placement, servicing, claims handling, or renewal of your insurance coverages, other parties, such as excess and surplus lines brokers, wholesale brokers, reinsurance intermediaries, underwriting managers and similar parties, some of which may be owned in whole or in part by Brown & Brown, Inc., may also receive compensation for their role in providing insurance products or services to you pursuant to their separate contracts with insurance or reinsurance carriers. That compensation is derived from your premium payments. Additionally, it is possible that we, or our corporate parents or affiliates, may receive contingent payments or allowances from insurers based on factors which are not client-specific, such as the performance and/or size of an overall book of business produced with an insurer. We generally do not know if such a contingent payment will be made by a particular insurer, or the amount of any such contingent payments, until the underwriting year is closed. That compensation is partially derived from your premium dollars, after being combined (or "pooled") with the premium dollars of other insureds that have purchased similar types of coverage. We may also receive invitations to programs sponsored and paid for by insurance carriers to inform brokers regarding their products and services, including possible participation in company-sponsored events such as trips, seminars, and advisory council meetings, based upon the total volume of business placed with the carrier you select. We may, on occasion, receive loans or credit from insurance companies. Additionally, in the ordinary course of our business, we may receive and retain interest on premiums you pay from the date we receive them until the date of premiums are remitted to the insurance company or intermediary. In the event that we assist with placement and other details of arranging for the financing of your insurance premium, we may also receive a fee from the premium finance company.

If an intermediary is utilized in the placement of coverage, the intermediary may or may not be owned in whole or part by Brown & Brown, Inc. or its subsidiaries. Brown & Brown entities operate independently and are not required to utilize other companies owned by Brown & Brown, Inc., but routinely do so. In addition to providing access to the insurance company, the Wholesale Insurance Broker/Managing General Agent may provide additional services including, but not limited to: underwriting; loss control; risk placement; coverage review; claims coordination with insurance company; and policy issuance. Compensation paid for those services is derived from your premium payment, which may on average be 15% of the premium you pay for coverage, and may include additional fees charged by the intermediary.

Questions and Information Requests. Should you have any questions, or require additional information, please contact this office at (386) 252-6176 or, if you prefer, submit your question or request online at http://www.bbinsurance.com/customerinquiry/.

Guide to Bests Ratings		
Best Category	**Rating**	**Description**
Secure	A++	Superior
Secure	A+	Superior
Secure	A	Excellent
Secure	A-	Excellent
Secure	B++	Very Good
Secure	B+	Very Good
Vulnerable	B	Fair
Vulnerable	B-	Fair
Vulnerable	C++	Marginal
Vulnerable	C+	Marginal
Vulnerable	C	Weak
Vulnerable	C-	Weak
Vulnerable	D	Poor
Vulnerable	E	Under Regulatory Supervision
Vulnerable	F	In Liquidation
Vulnerable	S	Rating Suspended
Not Rated	NR-1	Insufficient Data
Not Rated	NR-2	Insufficient Size and/or operating experience
Not Rated	NR-3	Rating Procedure Inapplicable
Not Rated	NR-4	Company Request
Not Rated	NR-5	Not Formally Followed
Rating Modifier	u	Under Review
Rating Modifier	q	Qualified
Affiliation Code	g	Group
Affiliation Code	p	Pooled
Affiliation Code	r	Reinsured

Guide to Best's Financial Size Categories		
Reflects size of insurance company based on their capital, surplus and conditional reserve funds in U.S. dollars.	**I**	Less than $1,000,000
	II	$1,000,000 - $2,000,000
	III	$2,000,000 - $5,000,000
	IV	$5,000,000 - $10,000,000
	V	$10,000,000 - $25,000,000
	VI	$25,000,000 - $50,000,000
	VII	$50,000,000 - $100,000,000
	VIII	$100,000,000 - $250,000,000
	IX	$250,000,000 - $500,000,000
	X	$500,000,000 - $750,000,000
	XI	$750,000,000 - $1,000,000,000
	XII	$1,000,000,000 - $1,250,000,000
	XIII	$1,250,000,000 - $1,500,000,000
	XIV	$1,500,000,000 - $2,000,000,000
	XV	Greater than $2,000,000,000

Brown & Brown always strives to place your coverage with highly secure insurance companies. We cannot, however, guarantee the financial stability of any carrier.

TAB D
Property Statement of Values

PROPERTY - STATEMENT OF VALUES (SOV)

Covered Party:	**Peace River Manasota Regional Water Supply Authority**
Renewal Date:	**4/30/23 to 4/30/24**
Date Completed: 2/2/23	

Unit Number	DEPARTMENT	Description of Occupancy	ADDRESS Line 1	City	State	Zip	County	Year Built	Square Feet	# of Stories	Sprinkler %	Flood Zone	Contents Replacement Value	Building Replacement Value - At 6% Index (ENR CCI Rate)	TOTALS BY UNIT/LOCATION
001	120 / TP 1	Activated carbon storage tank, mixers, pumps, motors	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		1		X	$ 43,897	$ 179,679	$ 223,576
002	25 / TP 1&2	Chlorine contact basin	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		1		X	$ -	$ 74,118	$ 69,923
004	30 / TP 1-6	Filters and filler equipment	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		2		X	$ 200,000	$ 4,665,673	$ 4,601,578
006	190	Maintenance Building with #1 and 2 generators and Swgr	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		1		X	$ 1,500,000	$ 1,112,301	$ 2,549,340
008	5 / River Pump Station	Intake structure and pumps	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		1		X	$ 1,282,580	$ 1,798,958	$ 2,979,710
010	20 / TP 2	Solid contact unit #1 concrete and mech. Equip.	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		1		X	$ 198,154	$ 568,985	$ 734,932
011	20 / TP 2	Solid contact unit #2, updated in REP	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		1		X	$ 198,154	$ 614,332	$ 777,713
012	SRHSPS	Operations bldg.	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		2		X	$ 2,585,000	$ 1,569,199	$ 4,065,377
013		Spare parts storage bldg.	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		1		X	$ 77,120	$ 106,952	$ 178,018
014	35 / TP 1	Motor control bldg.	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		1		X	$ 107,111	$ 20,963	$ 126,887
017	45 / GST #1	2MG Tank	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980				X	$ -	$ 1,664,200	$ 1,570,000
018	10	Surface reservior pump station	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980		1		X	$ -	$ 1,500,465	$ 1,415,533
019	10 / Elec Equipment	Surface reservior pumps	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980				X	$ 2,209,150	$ -	$ 2,209,150
020	10	Air Compressor & Bubble Aerator	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1987				X	$ 500,000	$ 57,041	$ 553,812
021	15	Pentagon splitter box	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1988				X	$ -	$ 156,097	$ 147,261
023	35 / TP 2	Transfer pump station concrete structure and transfer pumps	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1980				X	$ 537,052	$ 104,813	$ 635,932
026	51 WF #1	ASR wells	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1983				X	$ -	$ 5,839,578	$ 5,509,036
028	190 MWSG 1&2	23 KV overhead power line, poles and transformers & Main Switchgear	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1995				X	$ -	$ 1,629,744	$ 1,537,495
029	45 / GST #2	2 MG storage tank #2	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	1996				X	$ -	$ 1,664,200	$ 1,570,000
032		Maintenance Office	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2003		1		X	$ 21,422	$ 106,952	$ 122,320
033	15 / TP 1&2	PAC Contact Tanks	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		2		X	$ 319,189	$ 754,653	$ 1,031,126
034	20 / TP 2	Rapid Mix/Sed Basins	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		2		X	$ 1,026,119	$ 3,557,651	$ 4,382,393
035	30 / 7-12	Filters	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		2		X	$ 1,499,547	$ 2,033,371	$ 3,417,822
036	35 / TP 2	MCC Transfer PS Building	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		2		X	$ 398,451	$ 44,920	$ 440,828
037	45 / GST #3	2MG Storage Tank #3	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		2		X	$ -	$ 1,664,200	$ 1,570,000
038	51 WF #2	12 ASR Wells	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002				X	$ 1,842,301	$ 181,177	$ 2,013,223
039	100 / TP 1&2	TP1 Trib Sampling Bldg	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		1		X	$ 74,250	$ 85,562	$ 154,968
040	110	Polymer/Compressor Bldg	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		1		X	$ 325,000	$ 169,199	$ 484,621
042	TP 2	Maintenance Shop	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		1		X	$ 100,000	$ 299,466	$ 382,515
043	80 / TP	Sludge Thickner #1	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		2		X	$ 356,678	$ 449,198	$ 780,450
044	125 / TP 2	PAC Storage Tank	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2002		2		X	$ 96,399	$ 149,733	$ 237,657
045		Yard Piping and Water Transmission Lines throughout Desoto, Manatee, Sarasota, Charlotte Counties			FL							X	$ -	$ 7,429,597	$ 7,009,054
046		Portable building	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2000	320	1		X	$ 10,000	$ -	$ 10,000
047	Administration	OWNED Administrative Office including Tenant Space	9415-9423 Town Center Parkway	Lakewood Ranch	FL	34202	Manatee	1999	#####	1	No	X	$ 267,776	$ 2,829,140	$ 2,936,776
048	Proj Pr-Hwy 17	Metal Building 50'x40'	State Rd 17	Arcadia	FL	34269	De Soto	2007	2000	1		X	$ -	$ 165,419	$ 156,056
049	Proj Pr-Hwy 17	Well Pump and Meter	State Rd 17	Arcadia	FL	34269	De Soto	2007				X	$ -	$ 49,911	$ 47,086
050	Proj Pr-Hwy 17	Transfer Pumps Assoc Piping	State Rd 17	Arcadia	FL	34269	De Soto	2007				X	$ -	$ 163,993	$ 154,710
051	4	SCADA (2); Incl Cameras and Monitors	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2006				X	$ 750,000	$ -	$ 750,000
052	191	Reservoir Generator & Switchgear	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 634,912	$ -	$ 634,912
053	20 / TP 3 &4	Solid Contact Units	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 3,800,535	$ 9,239,851	$ 12,517,375
054	30 / TP 3 &4	Filters 30-46, Transfer Pump Station #3 &4	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 5,006,753	$ 7,948,648	$ 12,505,477
055	35 TP 3&4	Electrical Building	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 592,235	$ 150,446	$ 734,165
056	45	2MG Storage Tank # 4	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ -	$ 1,664,200	$ 1,570,000
057	45	2MG Storage Tank # 5	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ -	$ 1,664,200	$ 1,570,000
058	45	2MG Storage Tank # 6	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ -	$ 1,664,200	$ 1,570,000
059	62	HS Pump Station-North Regional	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 2,988,000	$ 761,710	$ 3,706,594
060	80	Sludge Thickener #2	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 356,678	$ 449,198	$ 780,450
061	90	Sludge Dewatering Building	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 1,175,394	$ 1,318,905	$ 2,419,644
062	97	Recycle Pump Station Electrical Building	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 812,521	$ 144,029	$ 948,397
063	100-110	Alum/ Polymer Building	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 1,698,244	$ 1,694,288	$ 3,296,629
064	97	Recycle Pumping Station	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 314,431	$ 1,016,614	$ 1,273,501
065	125	Powder Activated Carbon Building #2	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 1,200,000	$ 2,017,542	$ 3,103,342
066	145	Chlorine/Caustic & Ammonia Bldg	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 2,300,000	$ 2,478,223	$ 4,637,947
067	190	Fuel Tanks & System-3 Above Ground	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 400,752	$ 61,319	$ 458,601
068	190	Maintenance building with #3 & 4 Generators and Swgr.	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 1,500,000	$ 45,918	$ 1,543,319
069	7	Reservoir #2	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2009				X	$ 5,355,525	$ -	$ 5,355,525
070	PH 3A	Building with Emergency Generator and pump station	Carlton WTP, 1255 Mabry Carlton Parkway	Venice	FL	34292	Sarasota	2011				X	$ 494,017	$ 538,491	$ 1,002,028

PROPERTY - STATEMENT OF VALUES (SOV)

Covered Party:	**Peace River Manasota Regional Water Supply Authority**
Renewal Date:	**4/30/23 to 4/30/24**
Date Completed: 2/2/23	

Unit Number	DEPARTMENT	Description of Occupancy	ADDRESS Line 1	City	State	Zip	County	Year Built	Square Feet	# of Stories	Sprinkler %	Flood Zone	Contents Replacement Value	Building Replacement Value - At 6% Index (ENR CCI Rate)	TOTALS BY UNIT/LOCATION
072	PH 3A	5MG Storage Tank #7	Carlton WTP, 1255 Mabry Carlton Parkway	Venice	FL	34292	Sarasota	2011				X	$ -	$ 3,450,984	$ 3,255,645
073	PH 3A	5MG Storage Tank #8	Carlton WTP, 1255 Mabry Carlton Parkway	Venice	FL	34292	Sarasota	2011				X	$ -	$ 3,450,984	$ 3,255,645
074	PH 3A	Electrical Building	Carlton WTP, 1255 Mabry Carlton Parkway	Venice	FL	34292	Sarasota	2011				X	$ 494,028	$ 81,487	$ 570,903
075	PH 3A	Pump Station	Carlton WTP, 1255 Mabry Carlton Parkway	Venice	FL	34292	Sarasota	2011				X	$ 1,008,297	$ 149,393	$ 1,149,234
077	PH1A	Chemical Structure	27589 Disston Ave	Punta Gorda	FL	33982	Charlotte	2013				X	$ 149,480	$ 20,170	$ 168,508
078	PH1A	Ground Storage Tank - 500,000 gal	27589 Disston Ave	Punta Gorda	FL	33982	Charlotte	2013				X	$ -	$ 666,153	$ 628,446
079	PH1A	Subaqueous Line Above Water Air Relief Valves	Charlotte Harbor	Punta Gorda	FL		Charlotte	2013				X	$ -	$ 332,840	$ 314,000
080		Water Quality Training Facility Addition to Operations Bldg	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2015	5602	2	100	X	$700,000	$ 2,671,486	$ 3,220,270
81		Maintenance Building (Office)	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2020	4161	1	0	A	$50,000	$ 1,951,286	$ 1,890,836
82		Maintenance Warehouse	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2020	7320	1	0	A	$100,000	$ 1,525,510	$ 1,539,160
83		Covers on Filtration Units	8998 SW County Rd. 769	Arcadia	FL	34269	De Soto	2021					$0	$ 3,415,320	$ 3,222,000
										2023 Requested Values (indexed)					
										Total Building/Contents:			$ 47,657,153		$ 141,691,986
										Blanket Time Element:					$ 2,000,000
										Ace Limit of Liability:					**$ 143,691,986**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

REGULAR AGENDA
ITEM 4

5-Year Capital Improvements Plan & 20-Year Capital Needs Assessment

---

Presenter - Terri Holcomb, Director of Engineering

Recommended Action - **Board Discussion and Direction**. The draft 5-Year CIP and 20-Year CNA will guide the FY 2024 budget development in this area.

The draft 5-Year CIP and 20-Year CNA document summarizes the number, type, and timing of water supply, regional transmission, and other capital projects planned over the 20 year planning period pursuant to the Integrated Regional Water Supply Plan 2020 Update. Capital planning drives the planning, design, and construction of significant infrastructure projects forecasted to serve the region's needs. These projections must be coordinated with financial planning, selection of engineering consultants, and acquisition of internal resources to complete these projects by the time they are needed. There are two schedule horizons in the Authority's capital planning efforts: the 5-Year Capital Improvements Plan (CIP), which includes projects that are relatively certain and well-defined, and the 20-Year Capital Needs Assessment (CNA), which includes the 5-Year CIP and also looks out beyond that period to years 6 – 20 years where projects are less certain and defined.

The 5-Year CIP beginning in FY 2024 through FY 2028 currently includes the following:

Regional Transmission Projects	$ 123,000,000	15.1%
Water Supply Projects	$ 663,000,000	81.4%
Other Projects	$ 29,000,000	3.5%
Total	**$815,000,000**	**100%**

And the 20-Year CNA, beginning in FY 2024 through FY 2043, includes the following:

Regional Transmission Projects	$ 360,000,000	33%
Water Supply Projects	$ 703,000,000	64.4%
Other Projects	$ 29,000,000	2.6%
Total	**$1,092,000,000**	**100%**

Capital planning has also identified $306 million ($184 million occurring in the 5-year CIP) in offsetting cooperative grant funding opportunities for these collective projects based upon past generous participation by the Southwest Florida Water Management District.

Budget Action: None - Guidance received will be incorporated into the FY 2024 budget.

Attachments:
Tab A Presentation Materials
Tab B Draft 5-Year CIP and 20-Year CNA

TAB A
Presentation Materials



Peace River Manasota
Regional Water Supply Authority

Regular Item 4
5-Year Capital Improvements Plan And 20-Year Capital Needs Assessment

April 5, 2023

1



01 Purpose, Development and Application

02 Overview of 5-Year CIP and 20-Year CNA

03 Highlight of Key 5-Year CIP Projects

04 Next Steps and Schedule

2



01 **Purpose, Development and Application**

02 Overview of 5-Year CIP and 20-Year CNA

03 Highlight of Key 5-Year CIP Projects

04 Next Steps and Schedule

3

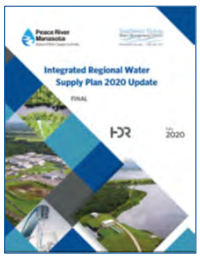
PURPOSE OF A CAPITAL IMPROVEMENTS PLAN

The plan provides a working blueprint for sustaining and improving the Authority's infrastructure. It coordinates strategic planning, financial capacity, and physical development of projects. The CIP/CNA stands at the epicenter of our Planning, Operations, Engineering, and Finance departments.



4

Development and Implementation





IRWSP

Strategic Plan

Operations

CIP

Customer Collaboration
- Needs
- Timing

Finance

Engineering and Construction









5



01 Purpose, Development and Application

02 Overview of 5-Year CIP and 20-Year CNA

03 Highlight of Key 5-Year CIP Projects

04 Next Steps and Schedule

6

Overview – By The Numbers

14 Projects Identified in next 20 years



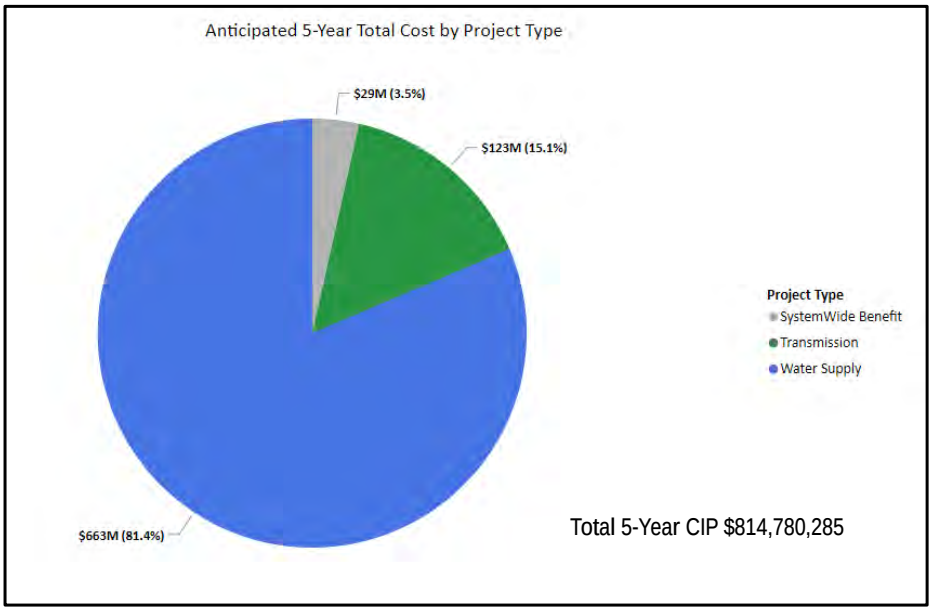


- 8 Regional Water Transmission Projects
  - 3 in 5-Year CIP
- 4 Water Supply Projects
  - 3 in 5-Year CIP
- 2 System-Wide Benefit Projects
  - 2 in 5-Year CIP

Costs and timing of the Capital Projects are coordinated with Member's Professional Staff and the Southwest Florida Water Management District.

7

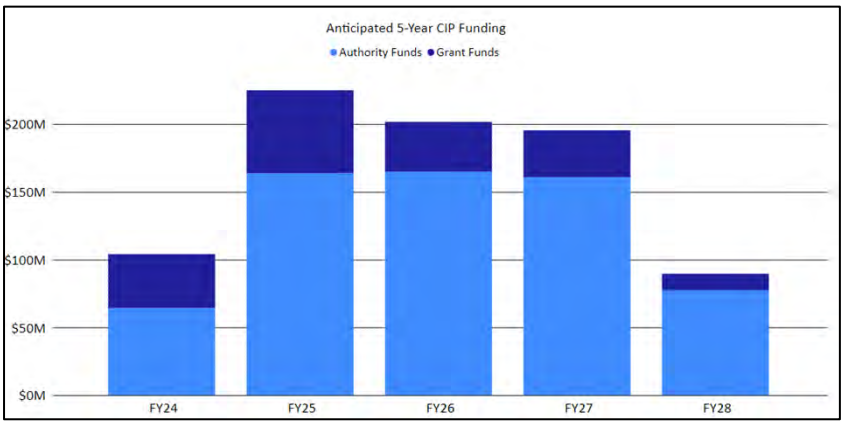
Proposed Capital Improvements Plan 2024 - 2028



Total 5-Year CIP $814,780,285

8

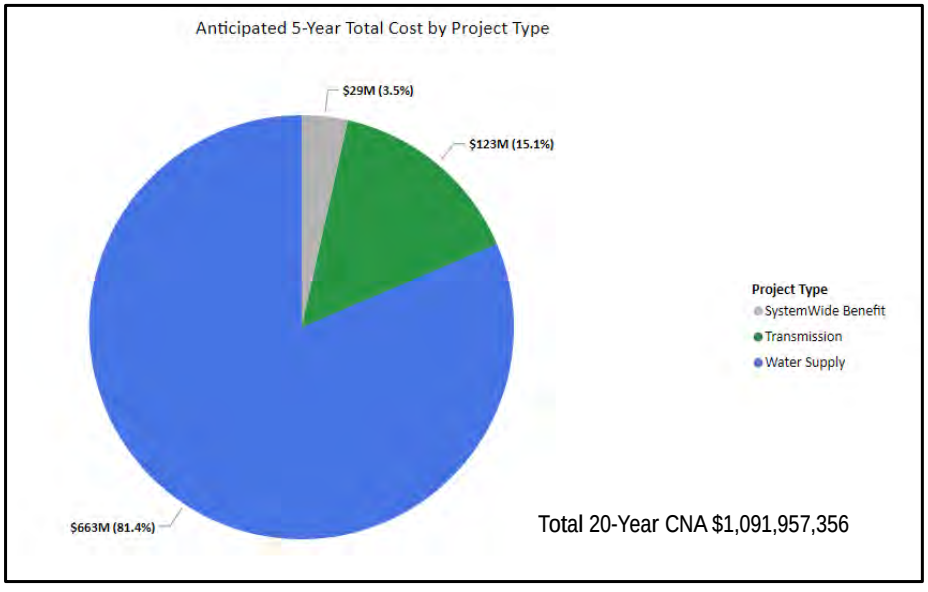
Proposed Capital Improvements Plan 2023 - 2027



Total Investment Planned Over the next 5-Year CIP	Authority Funds	Grant Funds (SWFWMD / State / Federal)
$814,780,285	$631,671,785	$184,045,500

9

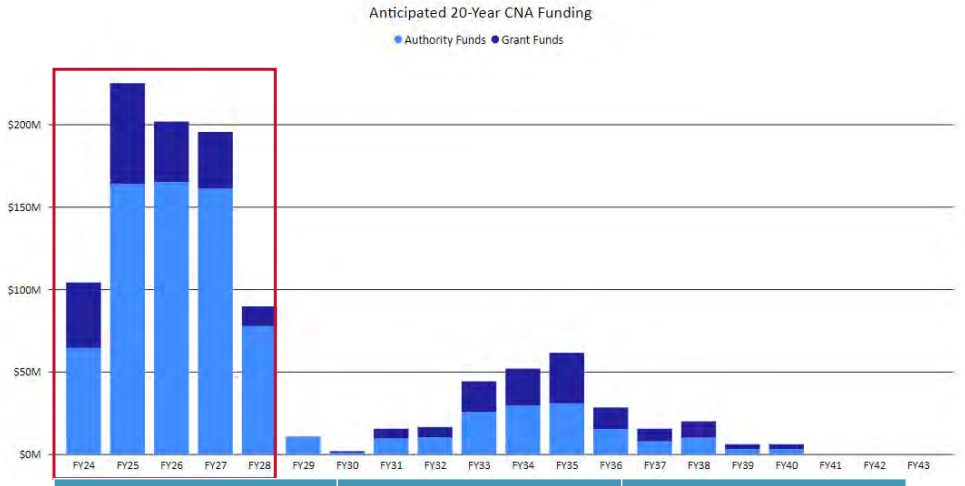
Proposed Capital Needs Assessment 2024 - 2043



Total 20-Year CNA $1,091,957,356

10

Proposed Capital Needs Assessment 2023 - 2042



Total Investment Planned Over the next 20-Year CNA	Authority Funds	Grant Funds (SWFWMD / State / Federal)
$1,091,957,356	$786,959,669	$305,934,687

11



01 Purpose, Development and Application

02 Overview of 5-Year CIP and 20-Year CNA

03 Highlight of Key 5-Year CIP Projects

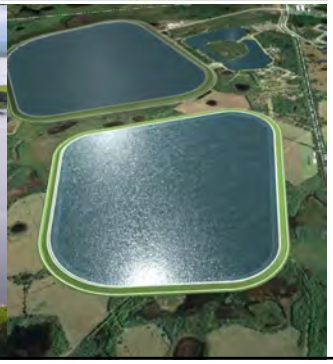
04 Next Steps and Schedule

12









3 Water Supply Projects

PR3 – New 9 Billion Gallon Reservoir; Intake and Pump Station on the Peace River; Reservoir Pump Station and Conveyance System.

PRF Expansion – Plant Capacity increase to support 15-18 MGD Annual Average Day Demands in conjunction with PR3

Brackish Water RO Project – New 9 MGD Brackish Groundwater Wellfield and 5 MGD Reverse Osmosis (RO) Treatment Plant.

13



3 Transmission System Projects

Phase 3C – 10 miles of large diameter transmission main to serve growing demands in northeast Sarasota County.

Phase 2B – 13 miles of large diameter transmission main to serve growing demands in western Charlotte County.

Kings Highway Pipeline Replacement – Relocation / Replacement of approximately 2 miles of existing 24” Transmission Main in concert with Charlotte County’s widening of Kings Highway from just west of I-75 east to the DeSoto County Line.

14



2 System Wide Benefit Projects

Water Resources/Construction Department Building – Construction of a new 5,000 SF Administration/Laboratory building to replace the existing 60-year-old Water Resources Building.

Partially Treated Surface Water ASR – Design, permitting and construction of facilities to partially treat raw water from the reservoir system and inject it below ground in the ASR system.

15



01 Purpose, Development and Application

02 Overview of 5-Year CIP and 20-Year CNA

03 Highlight of Key 5-Year CIP Projects

04 Next Steps and Schedule

16

Next Steps and Schedule



Receive additional comments from Board/Professional Staff

Professional Staff were provided a copy of the Draft 5-Year CIP and 20-Year CNA at the last Professional Staff Meeting on March 8th, 2023.



Incorporate comments / edits for final review

Any additional comments/edits received will be incorporated into the document by the next Professional Staff meeting held on May 3rd, 2023.



Present Final 5-CIP and 20-Year to Board for approval at June 7th 2023 meeting

Board-approved 5-Year CIP and 20-Year CNA will be incorporated into the final FY2024 Budget.

17



18

TAB B
Draft 5-Year CIP and 20-Year CNA (2024-2043)

Peace River Manasota
Regional Water Supply Authority

5-Year Capital Improvement Plan
and
20-Year Capital Needs Assessment

Fiscal Period: 2024 – 2043

"Through cooperation and collaboration, the Authority and its Customers shall create, maintain, and expand a sustainable, interconnected, regional water supply system"

DRAFT: April 5, 2023

Table of Contents

Overview 2
5-Year Capital Improvement Plan 3
5-Year Capital Improvement Plan Summary 4
Regional Integrated Loop – Phase 2B 5
Reservoir 3 6
Regional Integrated Loop – Phase 3C 7
Kings Highway Pipeline Replacement (Charlotte Co) 8
PRF Expansion 9
Water Resources/Construction Dept. Building 10
Partially Treated Surface Water ASR 11
5 MGD Brackish RO Facility 12
20-Year Capital Needs Assessment 13
20-Year Capital Needs Assessment Summary 14
Regional Integrated Loop – Phase 3C Extension 15
Regional Integrated Loop – Phase 2C 16
Replace 12" PVC Line 17
Kings Highway Pipeline Replacement (DeSoto Co) 18
Regional Integrated Loop – Phase 4 19
ASR Wellfield Expansion 20
Appendix A - Assumptions 21

Overview

The Peace River Manasota Regional Water Supply Authority's 5-Year Capital Improvements Plan (CIP) and 20-Year Capital Needs Assessment (CNA) reflect comprehensive plans of proposed capital projects to meet the region's water supply needs. These plans are primarily a planning vehicle which is adjusted annually subject to the shifting needs and priorities of the region and also as projects grow closer to implementation and so become more refined in both scope and cost. The CIP and CNA documents reflect the collective input of many stakeholders and is useful to those parties in understanding and communicating both funding obligations as well as grant funding opportunities associated with future projects. The CIP and CNA are developed with oversight of the Water Supply Authority's Board of Directors and are consistent with Board Policy, our Vision, our Mission Statement and the Strategic Plan. Although there is no policy establishing a minimum value for a project to be considered a CIP/CNA project, they typically reflect projects expected to cost more than $1 million. The Authority is continually in the process of updating and expanding its Water Supply Facilities to serve increasing demand, capacity requirements, and new regulatory requirements and improve and upgrade existing infrastructure, which will provide service to the members increasing demand.

Capital Improvement Projects are categorized into three primary categories: (1) New Water Supply Projects, (2) Regional Transmission System Projects, and (3) System Wide Benefit Projects:

New Water Supply Projects

Includes projects that provide expansion of the Authority's Water Supply Facilities and appurtenances or associated installations owned, leased or otherwise controlled by the Authority and used for the provision of potable water supply. This category also includes any water conveyance projects needed for water supply. These projects are funded in accordance with the Master Water Supply Contract (MWSC). The 5-year CIP plan is anticipated to add an additional 18 MGD of average day safe yield.

Regional Transmission System Projects

Includes transmission pipelines and, where needed, remote storage and booster pumping facilities to improve or extend delivery of water within the regional system. These projects generally interconnect members/customers based on need and bolster plant-to-plant connections to facilitate rotational supply capability for droughts and other emergencies. Also includes projects whereby elements of the regional transmission system must be relocated. The 5-year CIP plan is anticipated to add an additional 23 miles of transmission pipelines and the 20-year CNA is anticipated to add an additional 45 miles of transmission pipelines.

System Wide Benefit Projects

Is defined as any capital project of shared benefit to Authority Members and Customers. System Wide Benefit CIP Projects exclude Renewal and Replacement and New Water Supply Projects and funding will be established on project-specific basis as approved by the Board. System Wide Benefit Projects will generally exceed $500,000 but fall below $5,000,000 in anticipated cost for implementation and may include the following general types of projects:

- New buildings, or expansion of an existing building, at Authority water supply facilities;
- Projects which improve the performance, enhance treatment capability or improve water quality in the Authority’s water supply system;
- Projects which bolster resiliency and reliability of the Authority’s water supply system;
- Projects which promote sustainability, safety and system security of the regional water system;
- Projects involving major facility control/communications system upgrades; and
- Any other project so designated by the Authority Board of Directors.

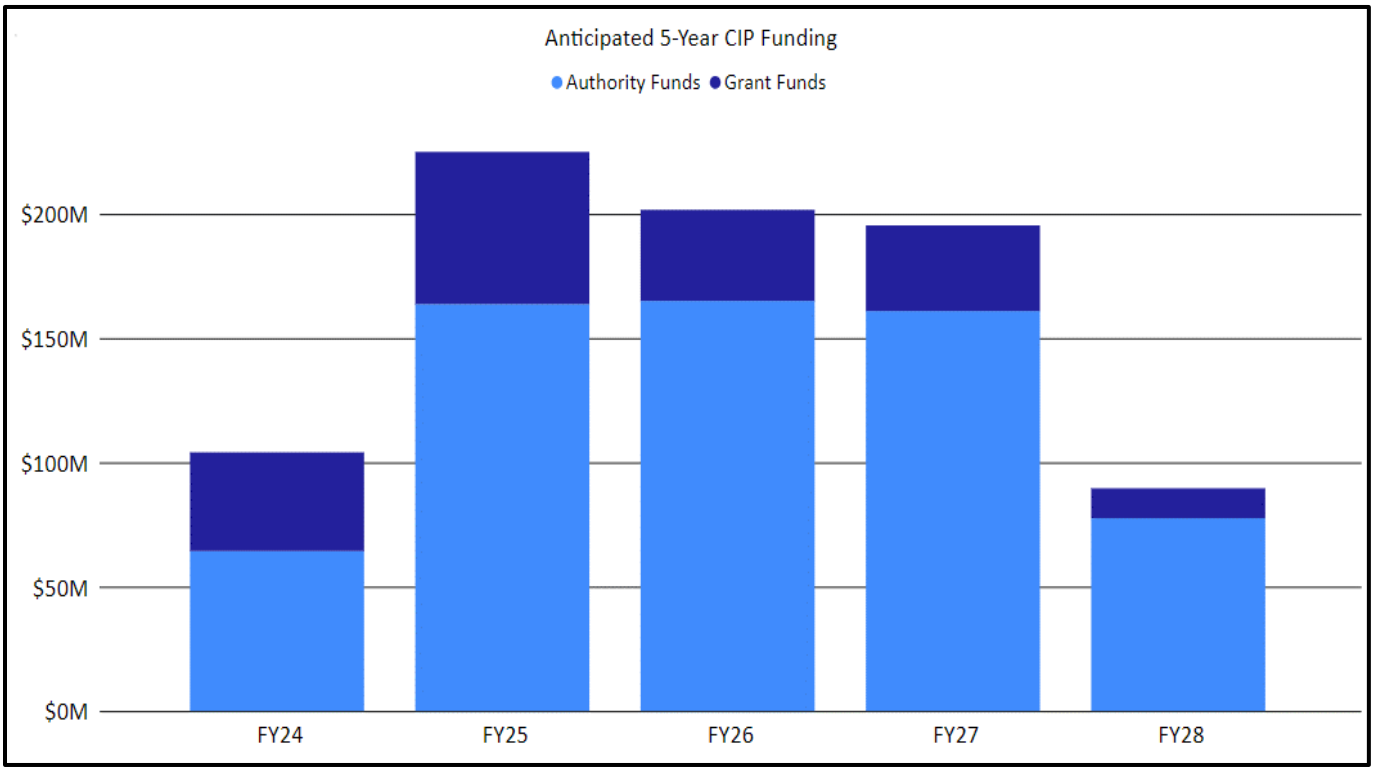
Peace River Manasota
Regional Water Supply Authority

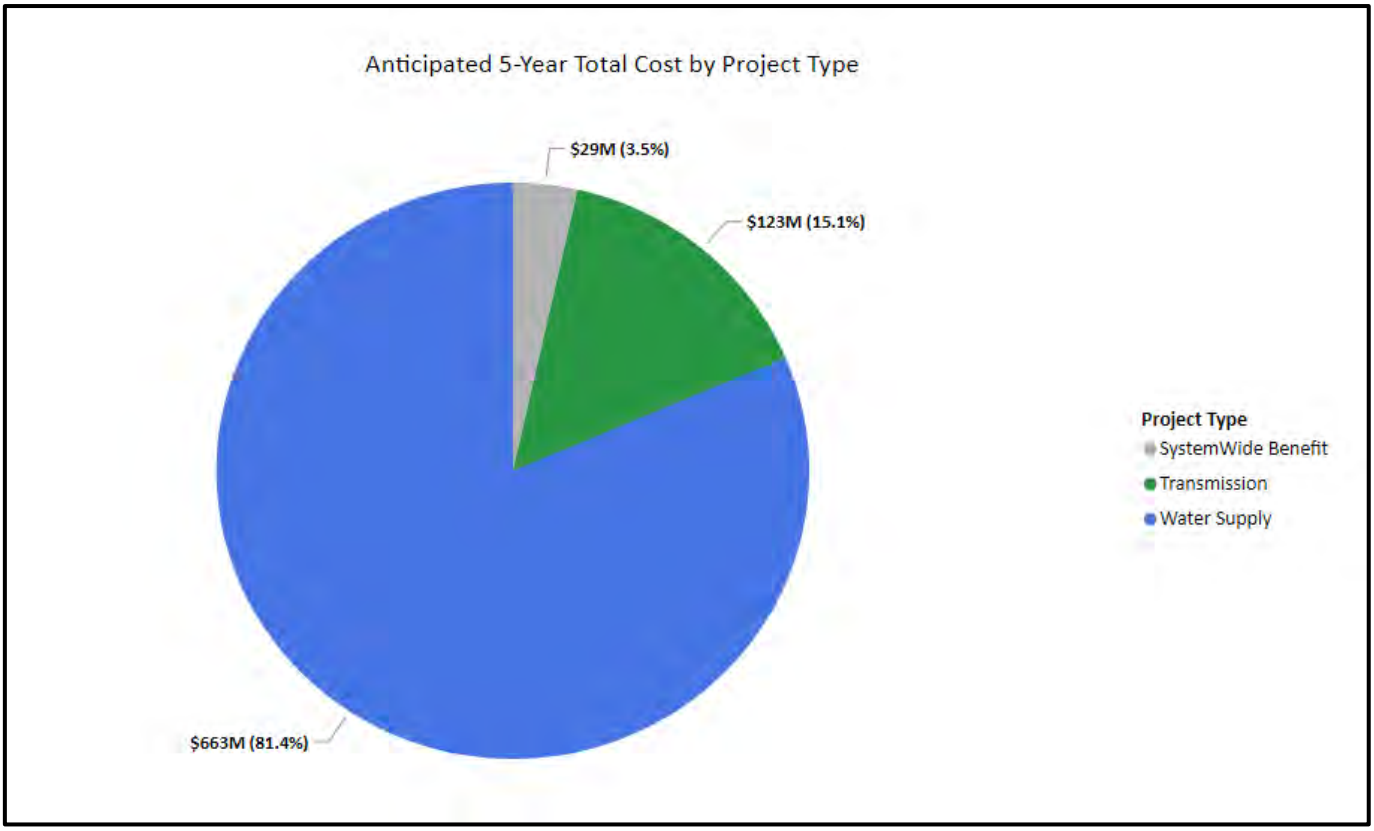
5-Year Capital Improvement Plan

Fiscal Period: 2024 – 2028

"Through cooperation and collaboration, the Authority and its Customers shall create, maintain, and expand a sustainable, interconnected, regional water supply system"

5-Year Capital Improvement Plan Summary





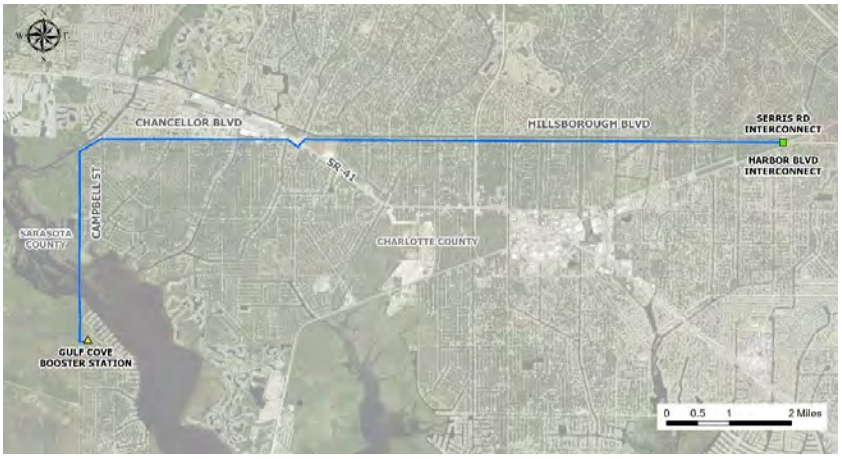
Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

Regional Integrated Loop - Phase 2B

Shorthand Identifier: T9

Project Type	Project Description
[ ] Water Supply [X] Transmission [ ] SystemWide Benefit [ ] Other	The project is comprised of 13 miles of 42" diameter pipeline running from the current terminus of the Phase 2A pipeline westward, crossing the Myakka River and terminating at the Charlotte County Gulf Cove Water Booster Pump Station. This segment of the regional integrated loop system will boost regional resiliency, bi-directional water transfer capability and lays the groundwork for the southern regional loop with future pipeline projects. This project is currently being delivered as a progressive design build project with a scheduled completion date of March 1, 2026.

Project Location or Concept Sketch



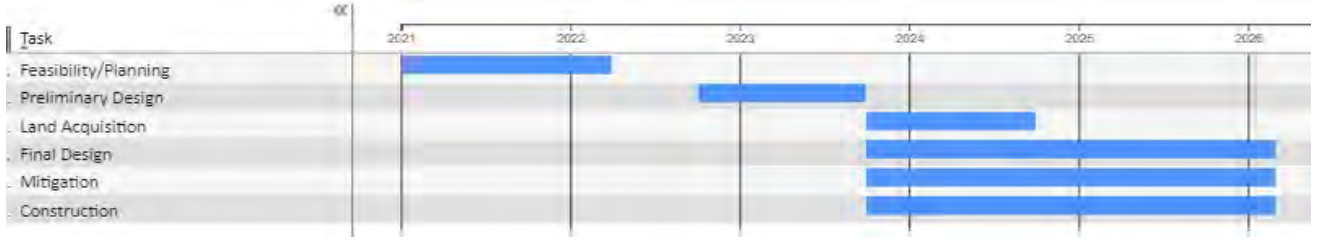


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	SWFWMD Grant	State/Other
Feasibility/Planning	Jan-21	Mar-22	$ 200,000	$ 100,000	$ 100,000	$ -
Preliminary Design	Oct-22	Sep-23	$ 5,100,000	$ 2,850,000	$ 750,000	$ 1,500,000
Land Acquisition	Oct-23	Sep-24	$ 400,000	$ 400,000	$ -	$ -
Final Design	Oct-23	Mar-26	$ -	$ -	$ -	$ -
Mitigation	Oct-23	Mar-26	$ 300,000	$ 300,000	$ -	$ -
Construction	Oct-23	Mar-26	$ 68,600,000	$ 33,950,000	$ 34,650,000	$ -
Total Costs			***$ 74,600,000***	***$ 37,600,000***	***$ 35,500,000***	***$ 1,500,000***

Construction Costs include Design Build Team Final Design and Construction Phase Services

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

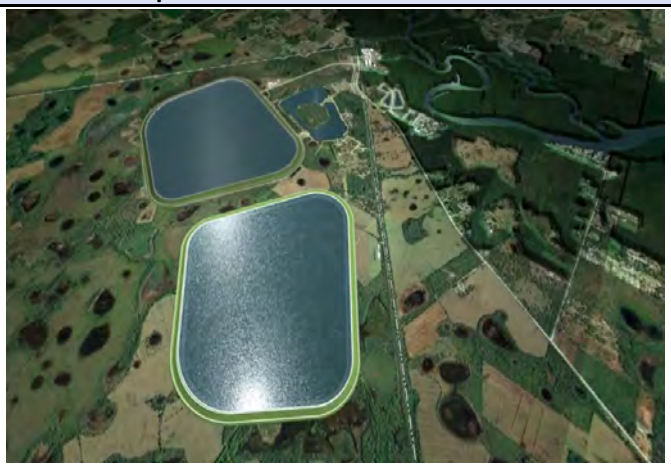
Reservoir 3

Shorthand Identifier: S2a

Project Type	Project Description
[X] Water Supply [ ] Transmission [ ] SystemWide Benefit [ ] Other	Reliability Modeling reflects that 9 BG additional raw water storage combined with recently permitted 258 MGD of river diversion pumping, increased raw water conveyance capacity and treatment plant capacity expansion can provide an additional annual average day safe yield of 18 MGD out of this system. The new river pumping facility, raw water pipelines, footprint, and location of the new reservoir and the manner in which it will connect to the existing storage reservoirs is being considered in the engineering phase that is currently underway.

Project Location or Concept Sketch



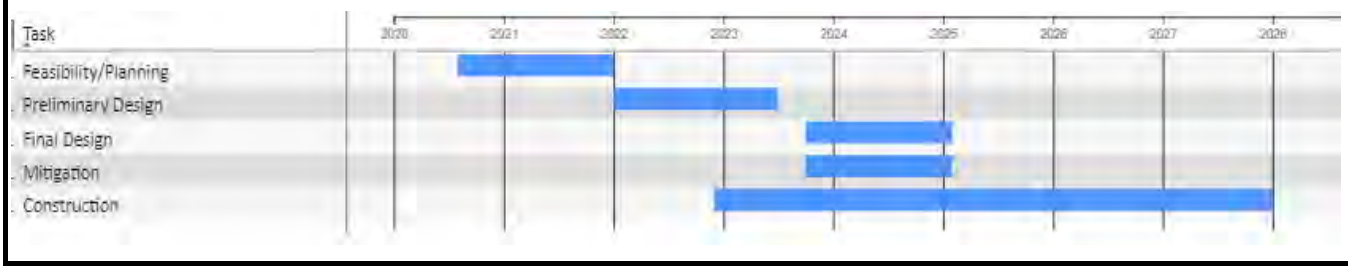


Project Schedule & Costs

				Sources of Funding		
Project Stage	***Start Date***	***End Date***	***Estimated Cost***	***Authority Funds***	***SWFWMD Grant***	***State/Other***
Feasibility/Planning	Aug-20	Dec-21	$ 1,500,000	$ 875,000	$ 625,000	$ -
Preliminary Design	Jan-22	Jun-23	$ 7,250,000	$ -	$ -	$ 7,250,000
Land Acquisition	Oct-23	Sep-24	$ 300,000	$ 300,000	$ -	$ -
Final Design	Oct-23	Jan-25	$ 9,500,000	$ 1,000,000	$ 1,000,000	$ 7,500,000
Mitigation	Oct-23	Jan-25	$ 20,000,000	$ 20,000,000	$ -	$ -
Construction	Oct-23	Jan-28	$ 425,000,000	$ 313,925,000	$ 111,075,000	$ -
Total Costs			***$ 463,550,000***	***$ 336,100,000***	***$ 112,700,000***	***$ 14,750,000***

Construction Costs include Consultant Engineers oversight

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

Regional Integrated Loop - Phase 3C

Shorthand Identifier: T6

Project Type	Project Description
☐ Water Supply ☒ Transmission ☐ SystemWide Benefit ☐ Other	The Phase 3C Regional Integrated Loop project will consist of approximately 8 miles of 42" diameter water main installed between Clark Rd (SR72) northward to the vicinity of Fruitville Rd and Lorraine Rd in northern Sarasota County. This project will extend the regional transmission main system northward towards Manatee County and serve the growing water needs in northeastern Sarasota County. This project is scheduled to be completed via Progressive Design Build delivery method.

Project Location or Concept Sketch



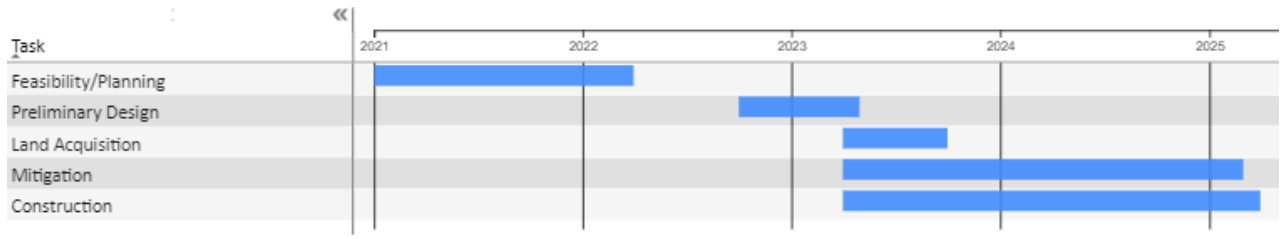


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	Sources of Funding: SWFWMD Grant	Sources of Funding: State/Other
Feasibility/Planning	Jan-21	Mar-22	$ 300,000	$ 150,000	$ 150,000	$ -
Preliminary Design	Oct-22	Apr-23	$ 4,694,450	$ 3,444,450	$ 1,250,000	$ -
Land Acquisition	Apr-23	Oct-23	$ 600,000	$ 600,000	$ -	$ -
Final Design			$ -	$ -	$ -	$ -
Mitigation	Apr-23	Mar-25	$ 100,000	$ 100,000	$ -	$ -
Construction	Apr-23	Mar-25	$ 57,505,550	$ 30,955,550	$ 24,050,000	$ 2,500,000
Total Costs			***$ 63,200,000***	***$ 35,250,000***	***$ 25,450,000***	***$ 2,500,000***

Construction Costs include Design Build Team Final Design and Construction Phase Services

Visual Schedule



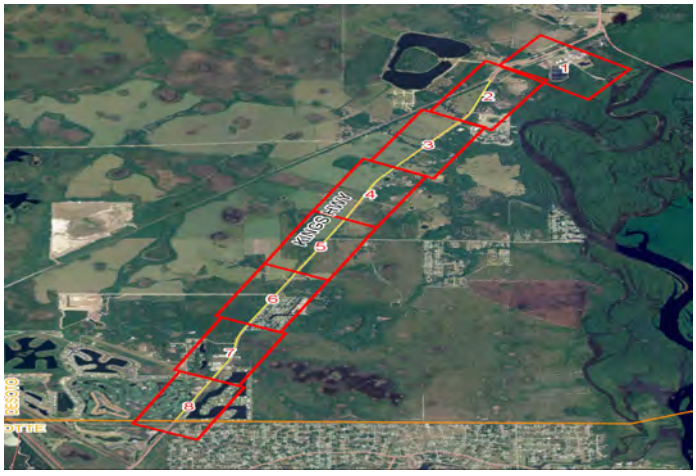
Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

Kings Highway Pipeline Replacement (Charlotte Co)

Shorthand Identifier: T4

Project Type	Project Description
[ ] Water Supply [X] Transmission [ ] SystemWide Benefit [ ] Other	The Kings Highway 24" Regional Transmission Main provides water to Charlotte and DeSoto Counties and was installed within the roadway right-of-way. Charlotte County is planning to widen a portion of Kings Highway from approximately Sandhill Blvd tot he County line. Approximately 3,500 linear feet of 36" ductile iron pipeline would replace the existing 24" pvc pipeline, as well as moving the in ground meter to an above ground meter.

Project Location or Concept Sketch





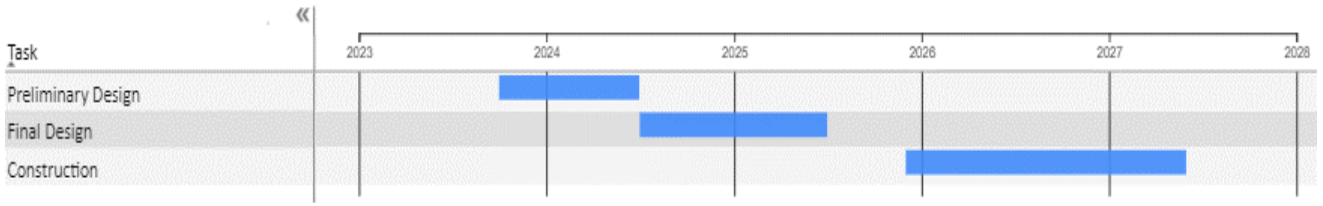


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	SWFWMD Grant	State/Other
Feasibility/Planning			$ -	$ -	$ -	$ -
Preliminary Design	Oct-23	Jun-24	$ 500,000	$ 500,000	$ -	$ -
Land Acquisition			$ -	$ -	$ -	$ -
Final Design	Jul-24	Jul-25	$ 500,000	$ 500,000	$ -	$ -
Mitigation			$ -	$ -	$ -	$ -
Construction	Dec-25	May-27	$ 4,000,000	$ 4,000,000	$ -	$ -
Total Costs			***$ 5,000,000***	***$ 5,000,000***	***$ -***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

PRF Expansion

Shorthand Identifier: S1

Project Type	Project Description
[X] Water Supply [ ] Transmission [ ] SystemWide Benefit [ ] Other	The PRF Expansion reflects options to modify the Peace River Facility to increase the permitted capacity of existing treatment units at the facility or to construct new treatment units, which along with the new reservoir, will generate an additional 15 - 18 MGD AADF of annual safe yield. This work may include uprating all plants and adding additional coagulation and sedimentation capacity and constructing new filter basins on existing units or the construction of new enhanced coagulation units.

Project Location or Concept Sketch



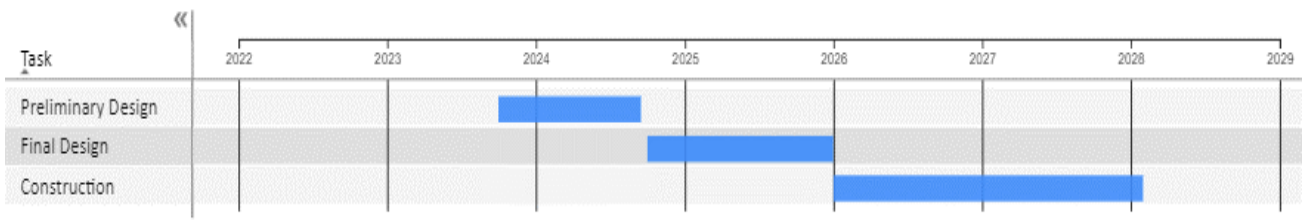


Project Schedule & Costs

				Sources of Funding		
Project Stage	***Start Date***	***End Date***	***Estimated Cost***	***Authority Funds***	***SWFWMD Grant***	***State/Other***
Feasibility/Planning			$ -	$ -	$ -	$ -
Preliminary Design	Dec-22	Oct-23	$ 1,884,335	$ 1,884,335	$ -	$ -
Land Acquisition			$ -	$ -	$ -	$ -
Final Design	Jan-25	Oct-26	$ 10,000,000	$ 10,000,000	$ -	$ -
Mitigation			$ -	$ -	$ -	$ -
Construction	Oct-25	Jan-28	$ 110,000,000	$ 110,000,000	$ -	$ -
Total Costs			***$ 121,884,335***	***$ 121,884,335***	***$ -***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

Water Resources/Construction Dept. Building

Shorthand Identifier: B3

Project Type	Project Description
[ ] Water Supply [ ] Transmission [X] SystemWide Benefit [ ] Other	The Water Resources/Construction departments have been housed in a converted ranch-style caretaker/hunting lodge built in the 1960's by a developer. The building, now 60 years old, needs major refurbishment. Considering extensive building code issues involved with updating this building, it is more prudent and cost effective to construct a new building instead. The new office building is planned to be approximately 5,550 ft² and located adjacent to the existing ranch house office.

Project Location or Concept Sketch



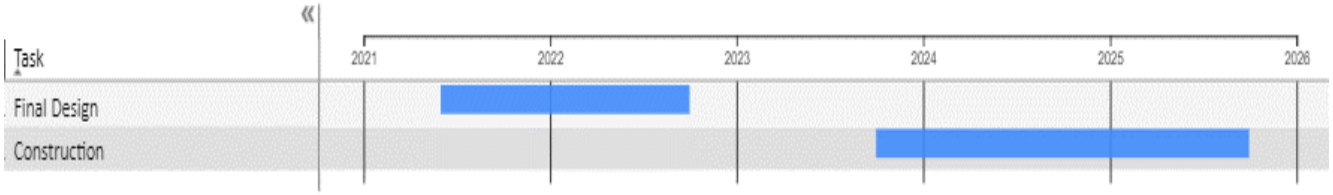


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	SWFWMD Grant	State/Other
Feasibility/Planning			$ -	$ -	$ -	$ -
Preliminary Design			$ -	$ -	$ -	$ -
Land Acquisition			$ -	$ -	$ -	$ -
Final Design	Jun-21	Oct-22	$ 172,500	$ 172,500	$ -	$ -
Mitigation			$ -	$ -	$ -	$ -
Construction	Oct-23	Sep-25	$ 4,500,000	$ 4,500,000	$ -	$ -
Total Costs			***$ 4,672,500***	***$ 4,672,500***	***$ -***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



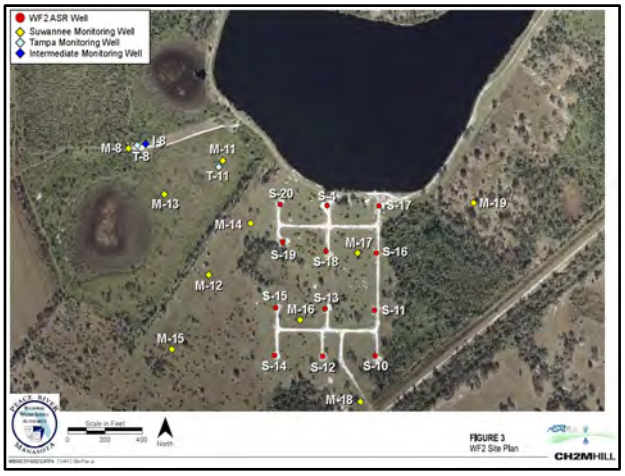
Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

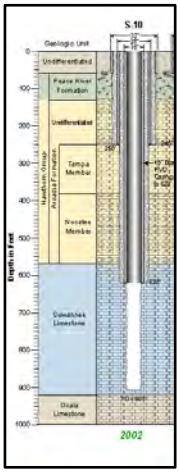
Partially Treated Surface Water ASR

Shorthand Identifier: A1

Project Type	Project Description
☐ Water Supply ☐ Transmission ☒ SystemWide Benefit ☐ Other	The partially treated surface water ASR project consists of pilot testing, permitting, design and construction of facilities to partially treat raw water from the reservoirs and inject it below ground in the ASR system. The expected benefits of this program would be significant operational cost savings because the water injected below ground would no longer have to go through potable water treatment first. This would leverage our injection capability, improve recovered water quality and free up treatment capacity at the water treatment plant providing additional operational flexibility.

Project Location or Concept Sketch





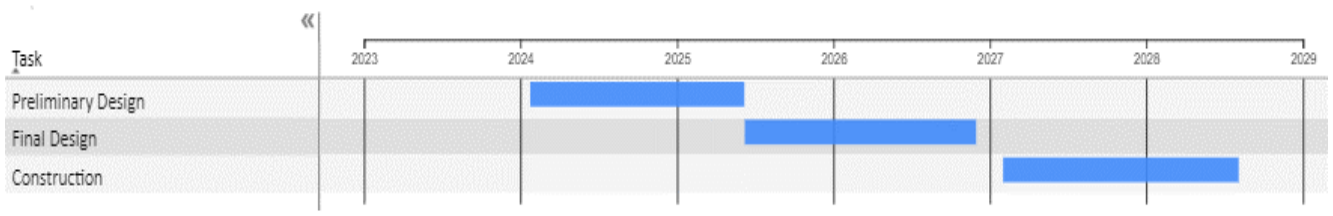


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	SWFWMD Grant	State/Other
Feasibility/Planning			$ -	$ -	$ -	$ -
Preliminary Design	Jan-24	Jun-25	$ 1,000,000	$ -	$ -	$ 1,000,000
Land Acquisition			$ -	$ -	$ -	$ -
Final Design	Jun-25	Nov-26	$ 2,500,000	$ 1,029,500	$ 1,470,500	$ -
Mitigation			$ -	$ -	$ -	$ -
Construction	Feb-27	Aug-28	$ 20,600,000	$ 10,300,000	$ 10,300,000	$ -
Total Costs			***$ 24,100,000***	***$ 11,329,500***	***$ 11,770,500***	***$ 1,000,000***

Construction Costs include Consultant Engineers oversight

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

5 MGD Brackish Water RO Facility

Shorthand Identifier: S4

Project Type	Project Description
[X] Water Supply [ ] Transmission [ ] Systemwide Benefit [ ] Other	This alternative water supply project would add 5 MGD AADD of safe yield to the regional system and also add a measure of drought resiliency to the regional water supply network. Brackish groundwater would be withdrawn from the Intermediate Aquifer and the Avon Park formation in the Floridan Aquifer. Reverse osmosis treatment membranes operating at an overall efficiency of 80% would be employed. Reject concentrate would be injected to a permeable zone well below the Avon Park zone. This project includes a combined clearwell for blending control.

Project Location or Concept Sketch



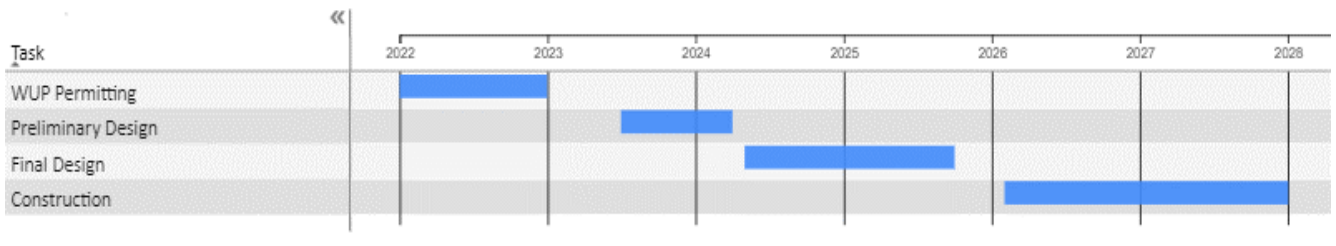


Project Schedule & Costs

				Sources of Funding		
Project Stage	***Start Date***	***End Date***	***Estimated Cost***	***Authority Funds***	***SWFWMD Grant***	***State/Other***
Feasibility/Planning			$ -	$ -	$ -	$ -
Preliminary Design	Jul-23	Apr-24	$ 5,000,000	$ 5,000,000	$ -	$ -
Land Acquisition			$ -	$ -	$ -	$ -
Final Design	May-24	Oct-25	$ 18,000,000	$ 18,000,000	$ -	$ -
Mitigation			$ -	$ -	$ -	$ -
Construction	Feb-26	Jan-28	$ 87,000,000	$ 87,000,000	$ -	$ -
Total Costs			***$ 110,000,000***	***$ 110,000,000***	***$ -***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



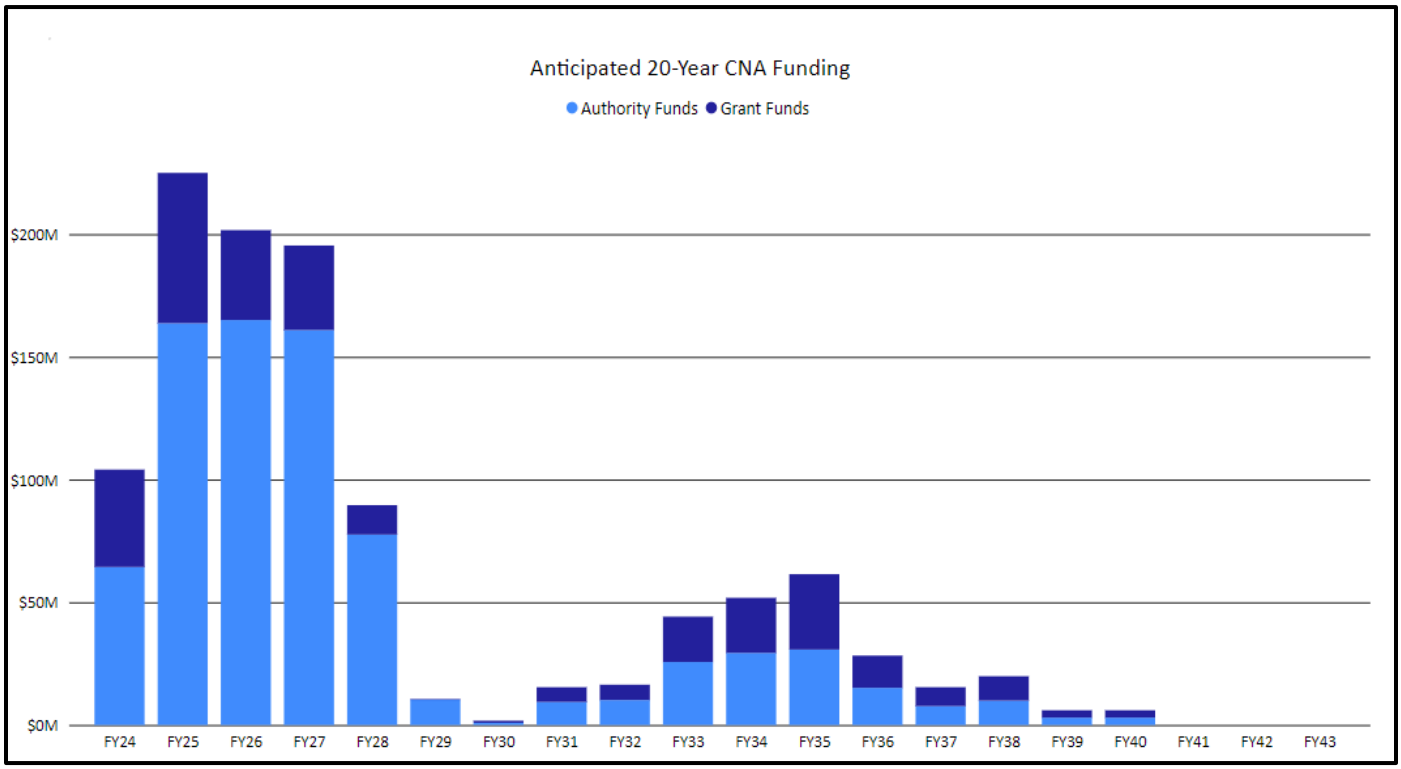
Peace River Manasota
Regional Water Supply Authority

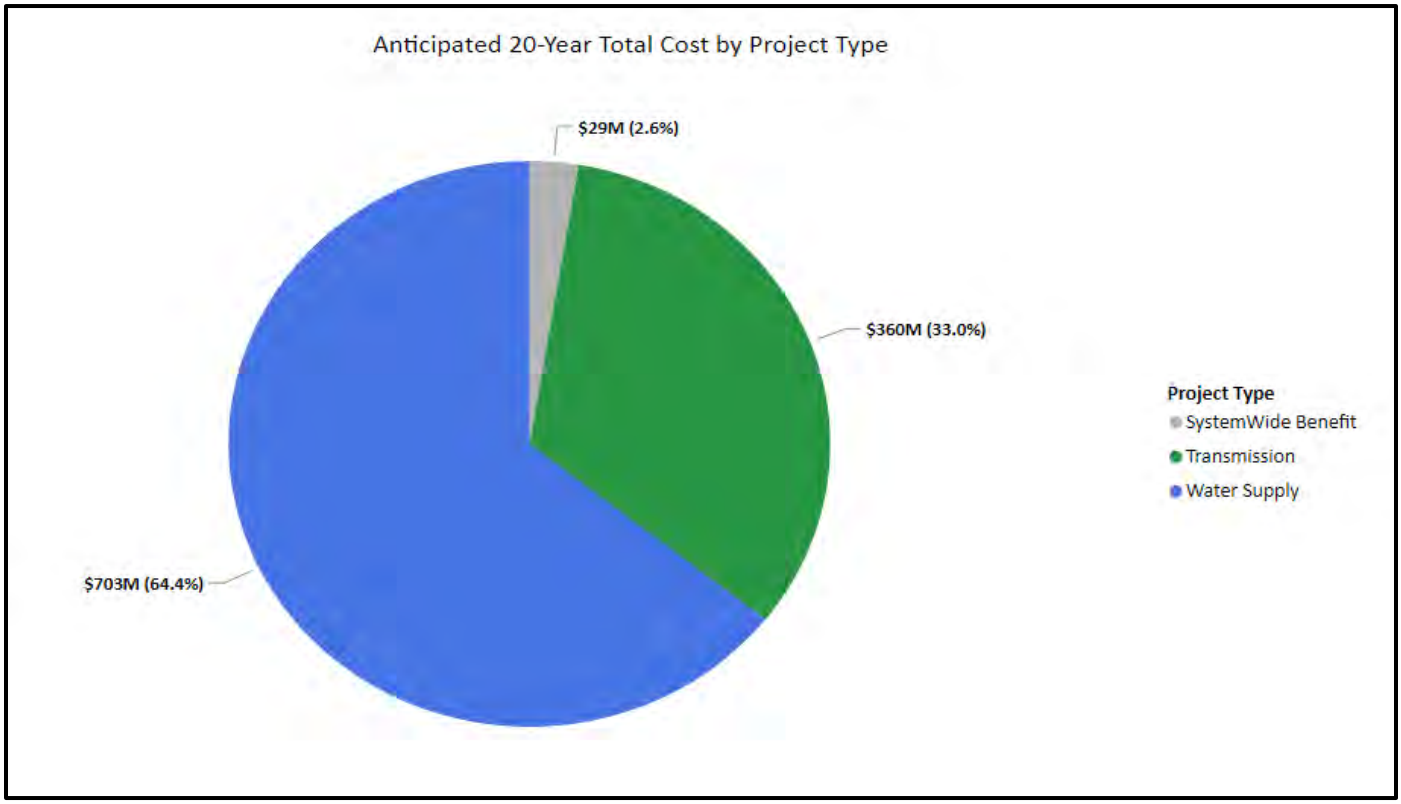
20-Year Capital Needs Assessment

Fiscal Period: 2024 – 2043

"Through cooperation and collaboration, the Authority and its Customers shall create, maintain, and expand a sustainable, interconnected, regional water supply system"

20- Year Capital Needs Assessment Summary





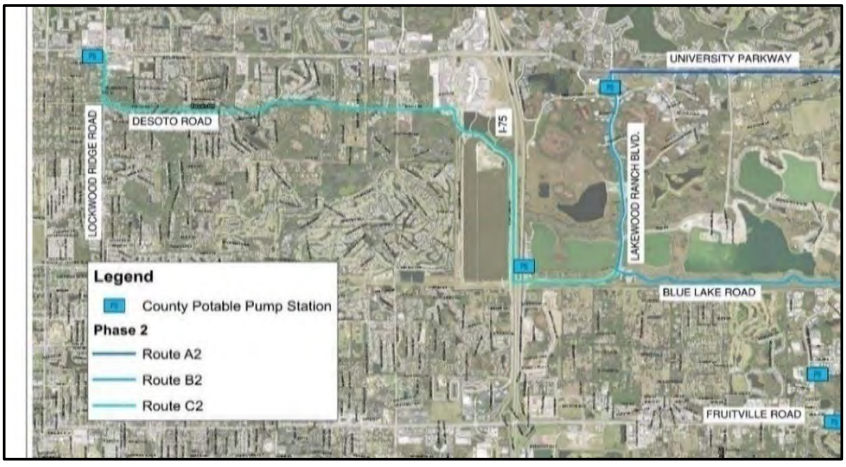
Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

Regional Integrated Loop - Phase 3C Extension

Shorthand Identifier: T13

Project Type	Project Description
☐ Water Supply ☒ Transmission ☐ SystemWide Benefit ☐ Other	The Phase 3C Extension Regional Integrated Loop project will consist of approximately 10.8 miles of 36" or 42" diameter water main installed between Phase 3C in the vicinity of Fruitville Road (780) westward under I-75, south of Benderson/UTC Mall area and then northwest to an existing facility at Lockwood Ridge Rd & University Pkwy. A new storage and pumping facility near Fruitville Rd and Lorainne Rd. will be capable of sending flows both north and south with chemical trim facilities . Some minor modifications to this facility located at the western terminal end of the reginal loop pipeline are envisioned.

Project Location or Concept Sketch





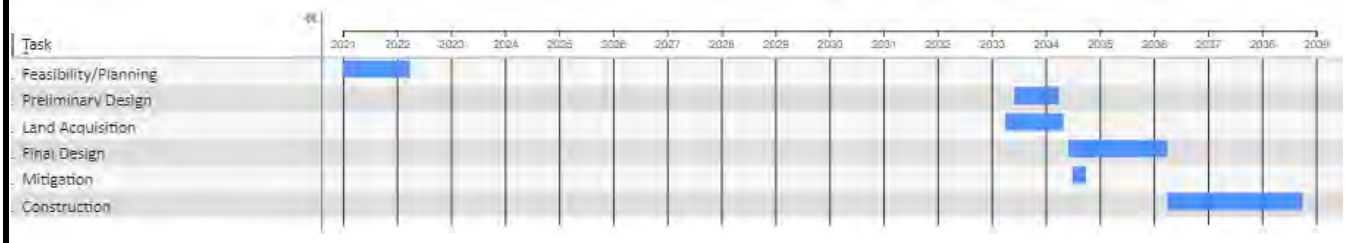


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	SWFWMD Grant	State/Other
Feasibility/Planning	Jan-21	Mar-22	$ 300,000	$ 150,000	$ 150,000	$ -
Preliminary Design	Jun-33	Mar-34	$ 840,951	$ 420,475	$ 420,475	$ -
Land Acquisition	Apr-33	Apr-34	$ 4,281,340	$ 4,281,340	$ -	$ -
Final Design	Jun-34	Mar-36	$ 5,328,207	$ 2,664,103	$ 2,664,103	$ -
Mitigation	Jul-34	Sep-34	$ 200,000	$ 200,000	$ -	$ -
Construction	Apr-36	Sep-38	$ 58,078,476	$ 29,039,238	$ 29,039,238	$ -
Total Costs			***$ 69,028,974***	***$ 36,755,157***	***$ 32,273,817***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

Regional Integrated Loop - Phase 2C

Shorthand Identifier: T10

Project Type	Project Description
☐ Water Supply ☒ Transmission ☐ SystemWide Benefit ☐ Other	The Regional Integrated Loop Phase 2C Interconnect is comprised of about 19-miles of 36 "- to 42" diameter pipeline beginning at the terminus of the Phase 2B Pipeline and extending generally west and north through Sarasota County and terminating at the Sarasota County Carlton Water Treatment Plant. The project includes a ground storage tank and booster pumping station and crossings of I-75 and the Myakka River in the northern end of the pipeline. The Phase 2C pipeline completes a plant-to-plant connection which will improve regional reliability, resiliency, provides bi-directional water transfer capability, completes the southern regional loop, and provides additional pipeline capacity for Manatee County in the future.

Project Location or Concept Sketch



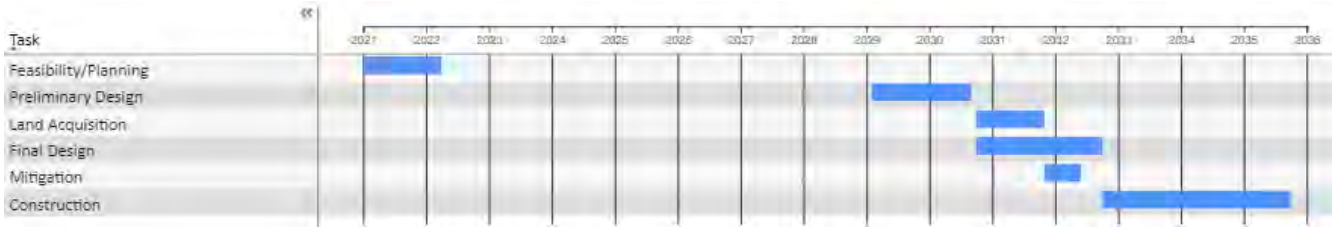


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	Sources of Funding: SWFWMD Grant	Sources of Funding: State/Other
Feasibility/Planning	Jan-21	Mar-22	$ 200,000	$ 100,000	$ 100,000	$ -
Preliminary Design	Feb-29	Aug-30	$ 1,590,000	$ 795,000	$ 795,000	$ -
Land Acquisition	Sep-30	Oct-31	$ 1,552,900	$ 776,450	$ 776,450	$ -
Final Design	Oct-30	Sep-32	$ 21,840,078	$ 10,920,039	$ 10,920,039	$ -
Mitigation	Nov-31	May-32	$ -	$ -	$ -	$ -
Construction	Oct-32	Sep-35	$ 104,564,021	$ 52,282,011	$ 52,282,011	$ -
Total Costs			***$ 129,746,999***	***$ 64,873,500***	***$ 64,873,500***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

Replace 12" PVC Line

Shorthand Identifier: T8

Project Type	Project Description
[ ] Water Supply [X] Transmission [ ] SystemWide Benefit [ ] Other	This approximately 1.5 mile long pipeline interconnects the 24" Kings Highway Transmission Main, the 36" Southern Regional Transmission Main and the 42" Phase 2a Regional Loop Interconnect. It serves as a valuable intertie which can provide a backup water feed to Lake Suzy and Charlotte County in the event of a main break on the larger lines. The current pipeline was installed by GDU and it will be replaced with a larger diameter pipeline.

Project Location or Concept Sketch



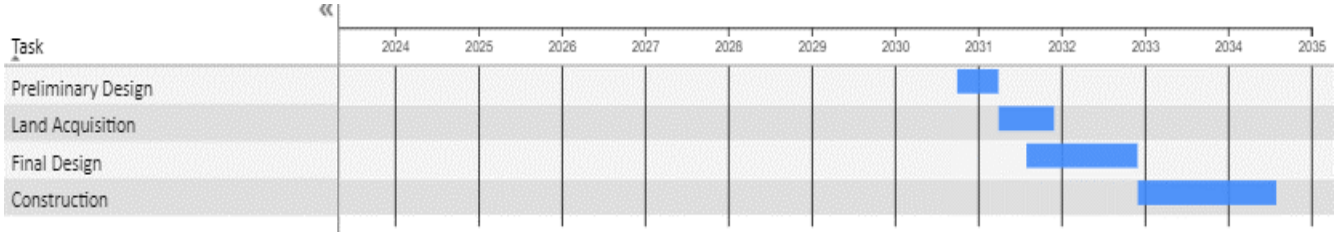


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	SWFWMD Grant	State/Other
Feasibility/Planning			$ -	$ -	$ -	$ -
Preliminary Design	Oct-30	Mar-31	$ 127,094	$ 127,094	$ -	$ -
Land Acquisition	Apr-31	Nov-31	$ 212,000	$ 212,000	$ -	$ -
Final Design	Aug-31	Nov-32	$ 374,499	$ 374,499	$ -	$ -
Mitigation			$ -	$ -	$ -	$ -
Construction	Dec-32	Jul-34	$ 2,203,765	$ 2,203,765	$ -	$ -
Total Costs			***$ 2,917,358***	***$ 2,917,358***	***$ -***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

Kings Highway Pipeline Replacement (DeSoto County)

Shorthand Identifier: T4-2

Project Type	Project Description
☐ Water Supply ☒ Transmission ☐ SystemWide Benefit ☐ Other	The Kings Highway 24" Regional Transmission Main provides water to Charlotte and DeSoto Counties and was installed within the roadway right-of-way. DeSoto County is planning to widen a portion of Kings Highway from the County line to Peace Street. The Authority will coordinate with DeSoto County and replace the existing 24" pipeline with a 36" pipeline from the County line back to the PRF, approximately 4 miles.

Project Location or Concept Sketch





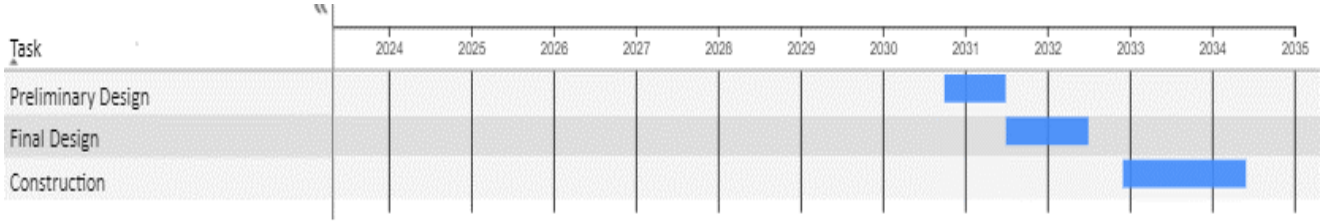


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	SWFWMD Grant	State/Other
Feasibility/Planning			$ -	$ -	$ -	$ -
Preliminary Design	Oct-30	Jun-31	$ 500,000	$ 500,000	$ -	$ -
Land Acquisition			$ -	$ -	$ -	$ -
Final Design	Jul-31	Jul-32	$ 1,600,000	$ 1,600,000	$ -	$ -
Mitigation			$ -	$ -	$ -	$ -
Construction	Dec-32	May-34	$ 11,900,000	$ 11,900,000	$ -	$ -
Total Costs			***$ 14,000,000***	***$ 14,000,000***	***$ -***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

Regional Integrated Loop - Phase 4

Shorthand Identifier: T12

Project Type	Project Description
☐ Water Supply ☒ Transmission ☐ SystemWide Benefit ☐ Other	The Phase 4 Regional Integrated Loop project comprises approximately 10 miles of 16" diameter water line generally beginning at the Authority's Phase 1A Disston Ave. Pump Station Facility, located south of the Peace River in the town of Cleveland, and extends east and south connecting to the existing South Charlotte County 16" diameter water main. The South County water main originates at the County's Burnt Store Water Treatment Plant providing a plant-to-plant connection, in the future..

Project Location or Concept Sketch



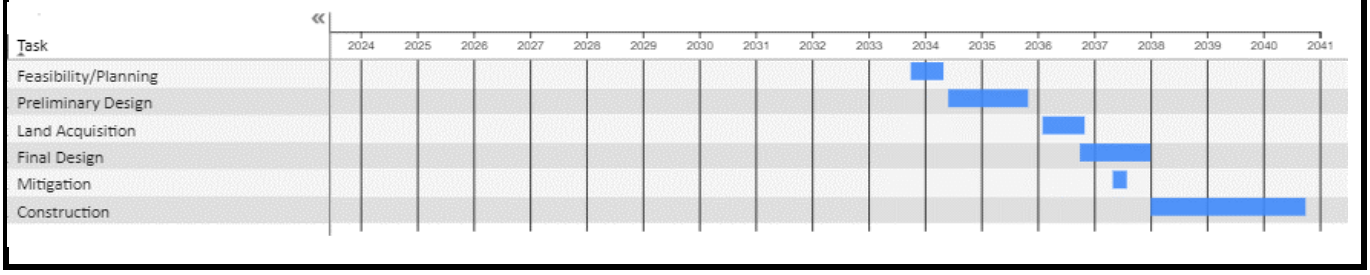


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	SWFWMD Grant	State/Other
Feasibility/Planning	Oct-33	May-34	$ -	$ -	$ -	$ -
Preliminary Design	Jun-34	Oct-35	$ 600,000	$ 300,000	$ 300,000	$ -
Land Acquisition	Feb-36	Oct-36	$ 2,000,000	$ 2,000,000	$ -	$ -
Final Design	Oct-36	Dec-37	$ 1,900,000	$ 950,000	$ 950,000	$ -
Mitigation	May-37	Jul-37	$ -	$ -	$ -	$ -
Construction	Jan-38	Sep-40	$ 18,000,000	$ 9,000,000	$ 9,000,000	$ -
Total Costs			***$ 22,500,000***	***$ 12,250,000***	***$ 10,250,000***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



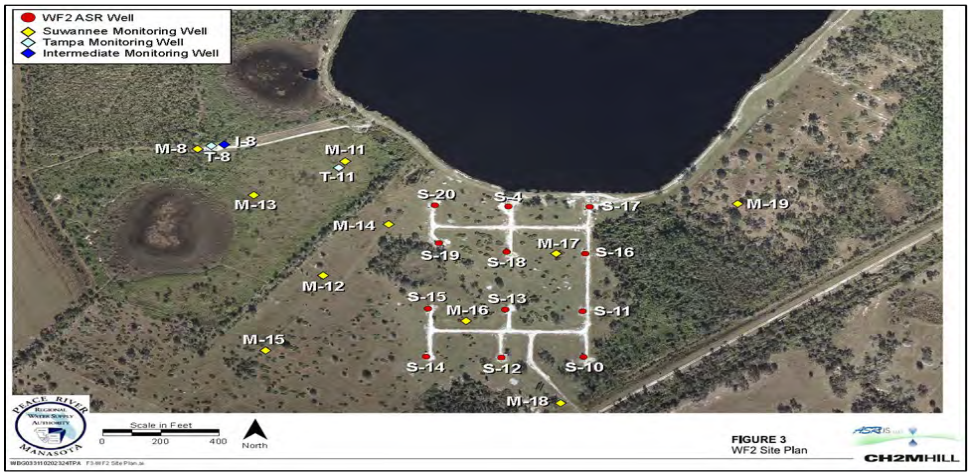
Capital Improvement Plan/Capital Needs Assessment
Project Description Sheet

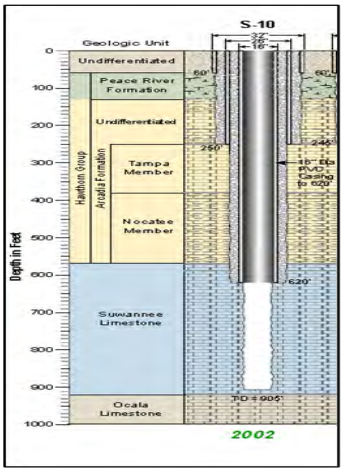
ASR Wellfield Expansion

Shorthand Identifier: A2

Project Type	Project Description
[X] Water Supply [ ] Transmission [ ] SystemWide Benefit [ ] Other	Success for the Peace River Facility is based upon capitalizing on seasonal storage and can either be accomplished with raw water off-stream reservoirs, or currently, as potable water ASR wells. This project will bring another 12 ASR wells online.

Project Location or Concept Sketch



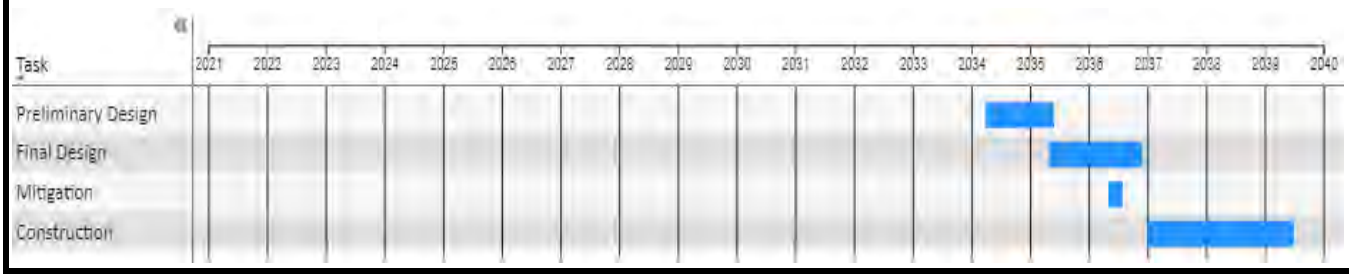


Project Schedule & Costs

Project Stage	Start Date	End Date	Estimated Cost	Sources of Funding: Authority Funds	Sources of Funding: SWFWMD Grant	Sources of Funding: State/Other
Feasibility/Planning			$ -	$ -	$ -	$ -
Preliminary Design	Apr-34	May-35	$ 701,328	$ 350,664	$ 350,664	$ -
Land Acquisition			$ -	$ -	$ -	$ -
Final Design	May-35	Nov-36	$ 1,423,353	$ 711,677	$ 711,677	$ -
Mitigation	May-36	Jul-36	$ 106,000	$ 106,000	$ -	$ -
Construction	Jan-37	Jun-39	$ 27,359,060	$ 13,679,530	$ 13,679,530	$ -
Total Costs			***$ 29,589,741***	***$ 14,847,870***	***$ 14,741,870***	***$ -***

Construction Costs include Consultant Engineers oversight

Visual Schedule



Capital Improvement Plan/Capital Needs Assessment
Appendix A - Assumptions

Cost Sources and Assumptions			
		Index Rate (ENR CCI)	
Project Name	Cost Source	FY23	FY24
Regional Integrated Loop - Phase 2B	Feasibility & Routing Study	0.00%	0.00%
Regional Integrated Loop - Phase 2C	Feasibility & Routing Study	0.00%	6.00%
Reservoir 3	30% Preliminary Design	0.00%	0.00%
Regional Integrated Loop - Phase 3C	Guarenteed Maximum Price	0.00%	0.00%
Regional Integrated Loop - Phase 3C Extension	Feasibility & Routing Study	0.00%	6.00%
Kings Highway Pipeline Replacement	Staff Developed	9.00%	0.00%
PRF Expansion	Capacity Evaluation Report May 2022	0.00%	0.00%
Water Resources/Construction Dept. Building	Preliminary Design Report	0.00%	0.00%
Partially Treated Surface Water ASR	Disinfection Study for the Partially Treated Surface Water ASR	0.00%	0.00%
Replace 12" PVC Line	Integrated Regional Water Supply Plan 2020	9.00%	0.00%
5 MGD Brackish Water RO Facility	Staff Developed	9.00%	0.00%
Regional Integrated Loop - Phase 4	Staff Developed	9.00%	0.00%
ASR Wellfield Expansion	Integrated Regional Water Supply Plan 2020	9.00%	6.00%

Other Assumptions:

* All costs except for land acquisition and mitigation are indexed annually from the time of the last engineering report and/or study.
* Grant funding from the Southwest Florida Water Management District is assumed at a 50% rate less land and mitigation costs
* Fees associated with individual project stages are estimated utilizing project managers' best estimate at the time of project development
* Index Rate is calculated using the Engineering News-Record Construction Cost Index from August of the prior year to August of the current year

Engineering News-Record Construction Cost Index History (ENR CCI)												
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2022	12556	12684	12791	12899	13004	13111	13168	13171	13173	13175	13175	13175
2021	11627	11698	11749	11849	11989	12112	12237	12463	12464	12464	12467	12481
2020	11392	11396	11397	11412	11418	11436	11439	11455	11499	11539	11579	11626
2019	11206	11213	11228	11228	11230	11268	11293	11311	11311	11326	11381	11381
2018	10878	10889	10959	10971	11013	11069	11116	11124	11170	11183	11184	11186
2017	10542	10559	10667	10678	10692	10703	10789	10826	10823	10817	10870	10873
2016	10132	10181	10242	10279	10315	10337	10379	10385	10403	10434	10442	10530
2015	9972	9962	9972	9992	9975	10039	10037	10039	10065	10128	10092	10152
2014	9664	9681	9702	9750	9796	9800	9835	9846	9870	9886	9912	9936
2013	9437	9453	9456	9484	9516	9542	9552	9545	9552	9689	9666	9668
2012	9176	9198	9268	9273	9290	9291	9324	9351	9341	9376	9398	9412
2011	8938	8998	9011	9027	9035	9053	9080	9088	9116	9147	9173	9172
2010	8660	8672	8671	8677	8761	8805	8844	8837	8836	8921	8951	8952
2009	8549	8533	8534	8528	8574	8578	8566	8564	8586	8596	8592	8641
2008	8090	8094	8109	8112	8141	8185	8293	8362	8557	8623	8602	8551
2007	7880	7880	7856	7865	7942	7939	7959	8007	8050	8045	8092	8089
2006	7660	7689	7692	7695	7691	7700	7721	7722	7763	7883	7911	7888
2005	7297	7298	7309	7355	7398	7415	7422	7479	7540	7563	7630	7647
2004	6825	6862	6957	7017	7065	7109	7126	7188	7298	7314	7312	7308
2003	6581	6640	6627	6635	6642	6694	6695	6733	6741	6771	6794	6782
2002	6462	6462	6502	6480	6512	6532	6605	6592	6589	6579	6578	6563
2001	6281	6272	6279	6286	6288	6318	6404	6389	6391	6397	6410	6390
2000	6130	6160	6202	6201	6233	6238	6225	6233	6224	6259	6266	6283

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

REGULAR AGENDA
ITEM 5

Regional Integrated Loop Phase 3C Pipeline Project

Presenter - Mike Knowles, Engineering & Projects Sr. Manager

Recommended Action -

A) **Motion** to approve the recommended pipeline revision of the Project, as identified in "Exhibit 1" in Amended Resolution No. 2022-03 and, to approve, A RESOLUTION AMENDING RESOLUTION NO. 2022-03 AND DETERMINING THE NECESSITY TO CONSTRUCT A TRANSMISSION PIPELINE AND APPURTENANT FACILITIES AND ROUTE SELECTION FOR A PROJECT KNOWN AS THE REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE PROJECT WHICH INCLUDES THE INSTALLATION OF A PUMPING AND STORAGE FACILITY AND A 42-INCH DIAMETER PIPELINE BETWEEN STATE ROAD 72 AND THE INTERSECTION OF LORRAINE ROAD AND BLUE-LAKE ROAD AND AUTHORIZING THE ACQUISITION OF PROPERTY RIGHTS BY NEGOTIATION AND CONTRACT AND, IF NECESSARY, BY THE EXERCISE OF EMINENT DOMAIN AUTHORITY.

B) **Motion** for Board authorization for the Executive Director and General Counsel to finalize and execute a contract amendment with Garney Companies, Inc. to complete design and construction of the Regional Integrated Loop Phase 3C Pipeline Project for a Guaranteed Maximum Price not to exceed $49,933,270.25.

Background: The Regional Integrated Loop Phase 3C Pipeline Project includes approximately 9 miles of 42-inch diameter pipe and a new regional pumping and storage facility. The pipeline route begins near the northern end of the existing Regional Integrated Loop Phase 3B Pipeline within Sarasota County near State Road 72 and Cow Pen Slough Canal and extends generally north to the vicinity of the Fruitville and Lorraine Roads intersection where it will connect with Sarasota County utilities existing infrastructure. The Garney Companies, Inc. team was approved at the August 3rd Board meeting to deliver the Progressive Design Build Project. The Regional Integrated Loop Phase 3C Project is scheduled for substantial completion by March 1, 2025.

A. At the April 6, 2022 meeting the Board approved Resolution 2022-03 determining the necessity for construction of the Phase 3C Regional Interconnect and identifying the route for the pipeline. This Amendment of Resolution 2022-03 includes revision of the originally approved pipeline route, and authorization for acquisition of property rights necessary to construct and operate the Phase 3C Pipeline project. Staff will discuss pipeline route changes and property needs for the project.

B. Phase 1 of the Loop Phase 3C Pipeline Project services (provided by The Garney Companies) was approved October 5, 2022, includes design of the Phase 3C pipelines and pump station to a 60% level, and providing the Authority with a Guaranteed Maximum Price (GMP) to complete the remaining design, permitting and construction as part of Phase 2 of the Project. The Amendment to the Phase 3C Regional Interconnect contract includes final design, construction permitting, construction, testing, commissioning and turn-over services, for the 7.2-mile pipeline project, and provides a GMP for the project. A memorandum is attached (Tab G) explaining key points of the contract amendment. Staff will discuss project progress, costs and the GMP.

Budget Action – None. Funds for these materials will come from the Authority's $100M Line of Credit.

Attachments:

Tab A Presentation Materials
Tab B AMENDED RESOLUTION NO. 2022-03
Tab C AMENDED RESOLUTION NO. 2022-03 Exhibit 1 – April 2022 Packet
Tab D AMENDED RESOLUTION NO. 2022-03 Exhibit 2 – Reroute Alignment
Tab E AMENDED RESOLUTION NO. 2022-03 Exhibit 3 – Easements
Tab F AMENDED RESOLUTION NO. 2022-03 Exhibit 4 – Easement Terms
Tab G Memorandum to the Board on the Contract Amendment for the GMP

TAB A
Presentation Materials



Peace River Manasota
Regional Water Supply Authority

Regional Integrated Loop Phase 3C Interconnect Project

Regular Agenda Items 5a – 5c

April 5, 2023



1



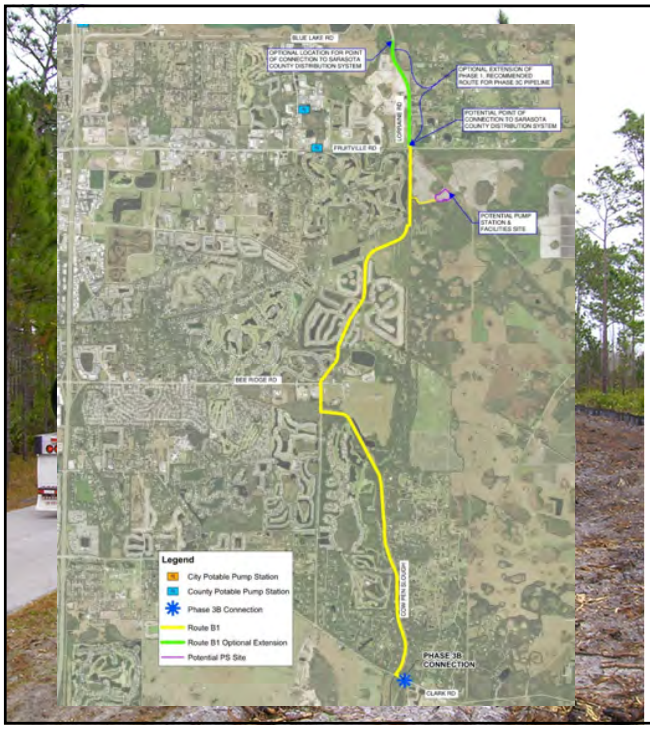
01 **Project Background**

02 **Proposed Route Revision**

03 **Authorization for Property Acquisition**

04 **PDB Guaranteed Maximum Price**

2



01 Background

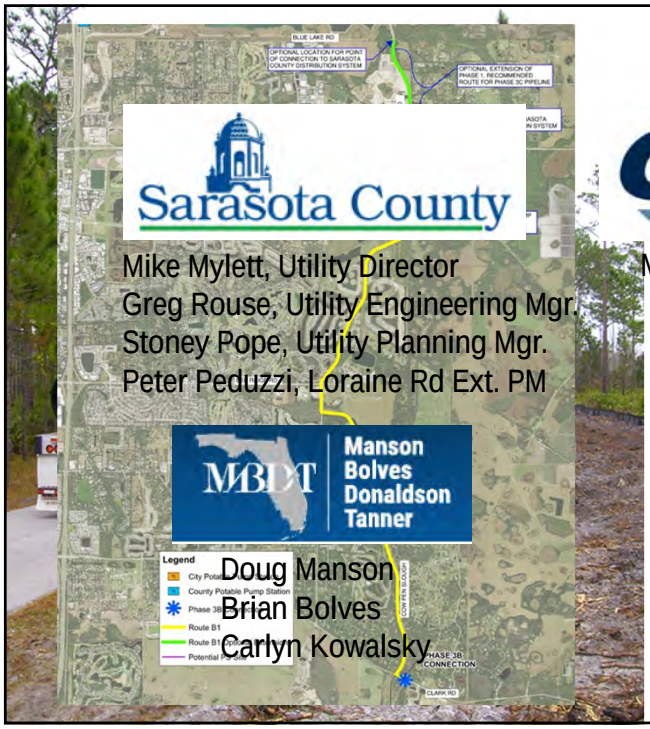
April 6, 2022, Board Meeting
Recommended Pipeline Route
Interlocal Agreement Sarasota County

October 5, 2022, Board Meeting
Phase 1 Contract 60% Design

December 7, 2022, Board Meeting
Early Procurement Package

Garney Construction

3



Acknowledgements

Sarasota County
Mike Mylett, Utility Director
Greg Rouse, Utility Engineering Mgr.
Stoney Pope, Utility Planning Mgr.
Peter Peduzzi, Loraine Rd Ext. PM

Garney Construction
Mark Kelly, Director

ARDURRA
Ben Turnage, Design PM

MBDT Manson Bolves Donaldson Tanner
Doug Manson
Brian Bolves
Carlyn Kowalsky

WADE TRIM
Freddy Betancourt, Designer

Brown AND Caldwell
Mike Condran, Director, Client Services
Todd Bosso, Area Leader
Elizabeth Minyard, Sr. IPD Owner Adviser
Rod Pope, Vice President

4



01 Project Background

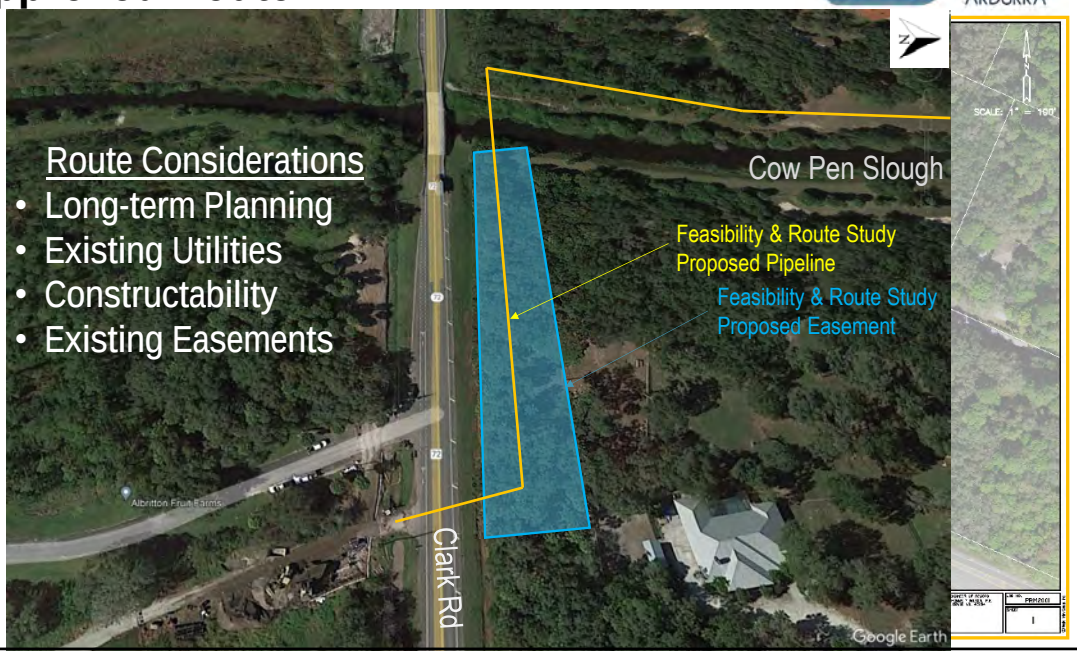
02 **Proposed Route Revision**

03 Authorization for Property Acquisition

04 PDB Guaranteed Maximum Price

5

02 Approved Route



6

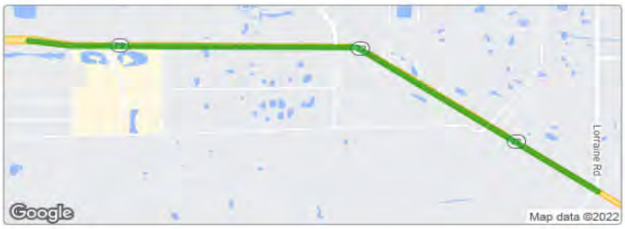
02 Route Revision • Long-term Planning



FDOT Southwest Florida
Florida Department of Transportation

SR 72 (Clark Road) PD&E Study from east of I-75 to Lorraine Road 444634-1

Project Details	
Work Type	PD&E Study
Phase	Study
Limits	East of I-75 to Lorraine Road
Length	3.39 miles
City	Sarasota
County	Sarasota
Road	SR 72



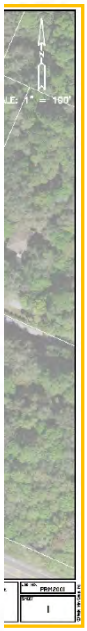
Contact Information

Communications Team
Communications Office

PD&E Project Manager
Patrick Bateman, PE
863-519-2792

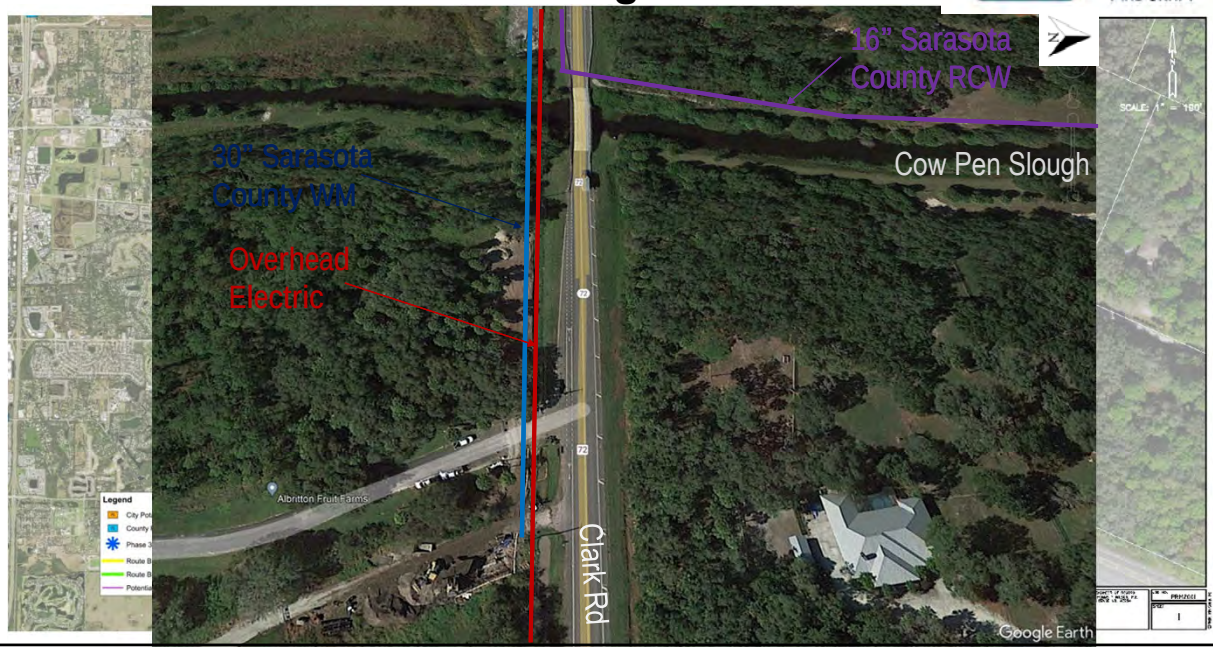
About

The Florida Department of Transportation (FDOT), District One, is conducting a Project Development and Environment (PD&E) study for proposed improvements to State Road (SR) 72 (Clark Road) from east of I-75 to Lorraine Road in Sarasota County, for a distance of 3.39 miles. The purpose of the project is to identify and evaluate potential improvements to this segment of SR 72. These improvements are intended to improve capacity to accommodate future travel demand projected as a result of area-wide population and employment growth. Other goals include enhancing safety conditions and accommodating multimodal activity.



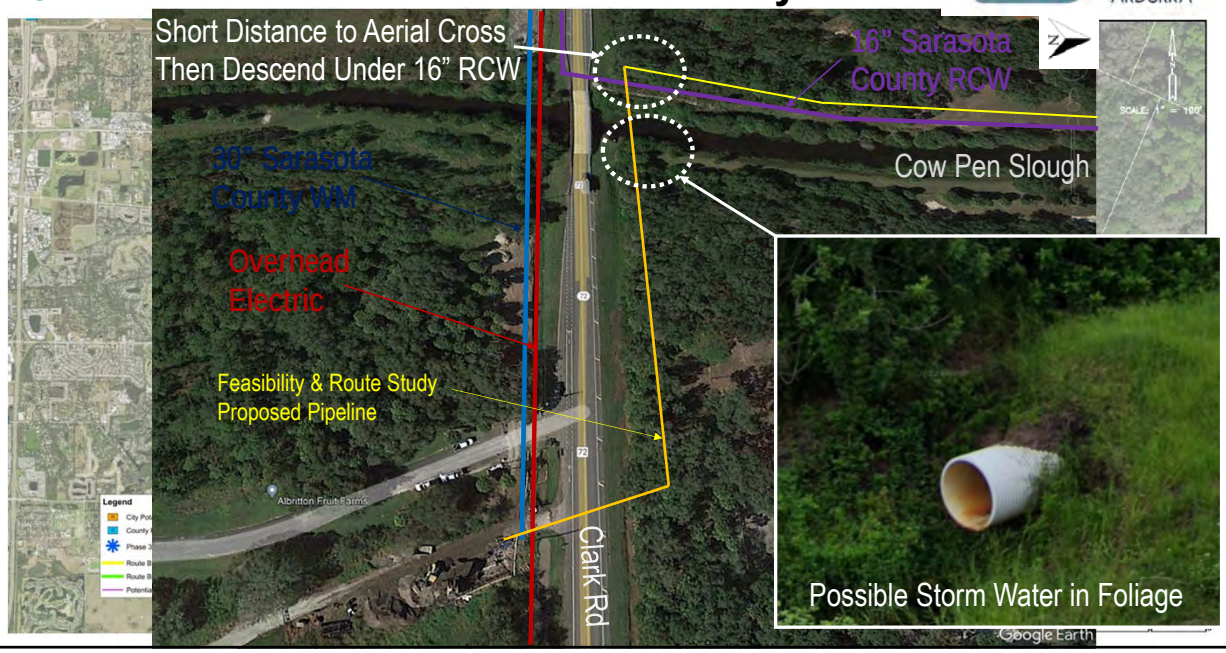
7

02 Route Revision • Existing Utilities



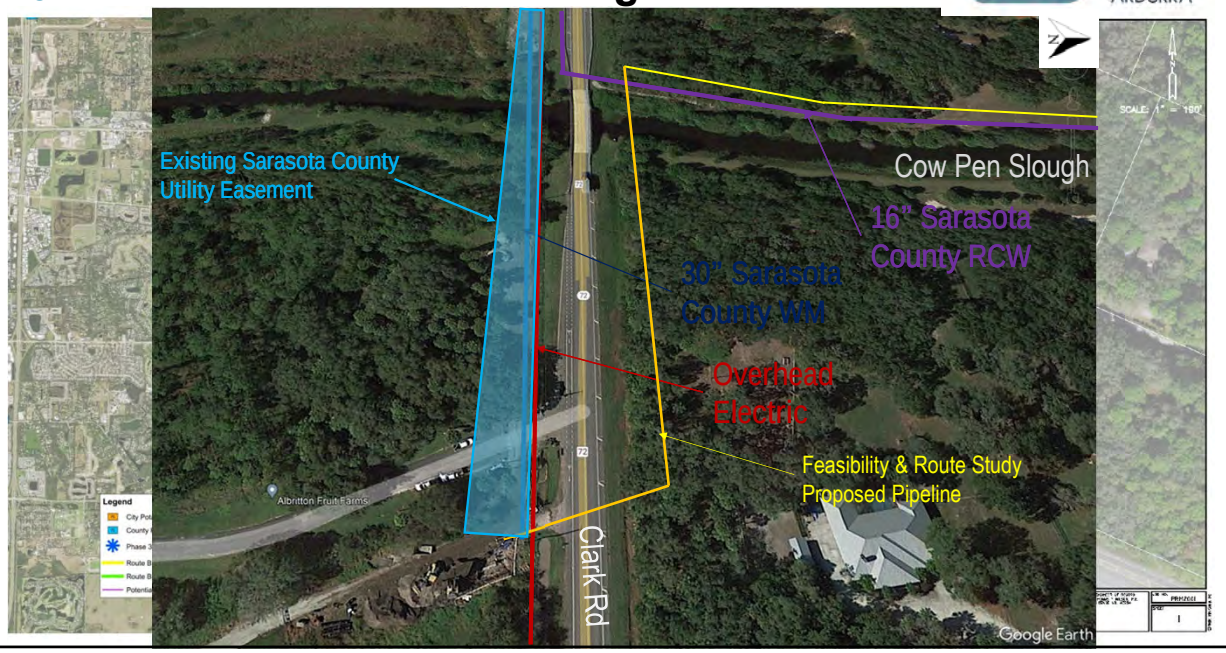
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02 Route Revision • Constructability



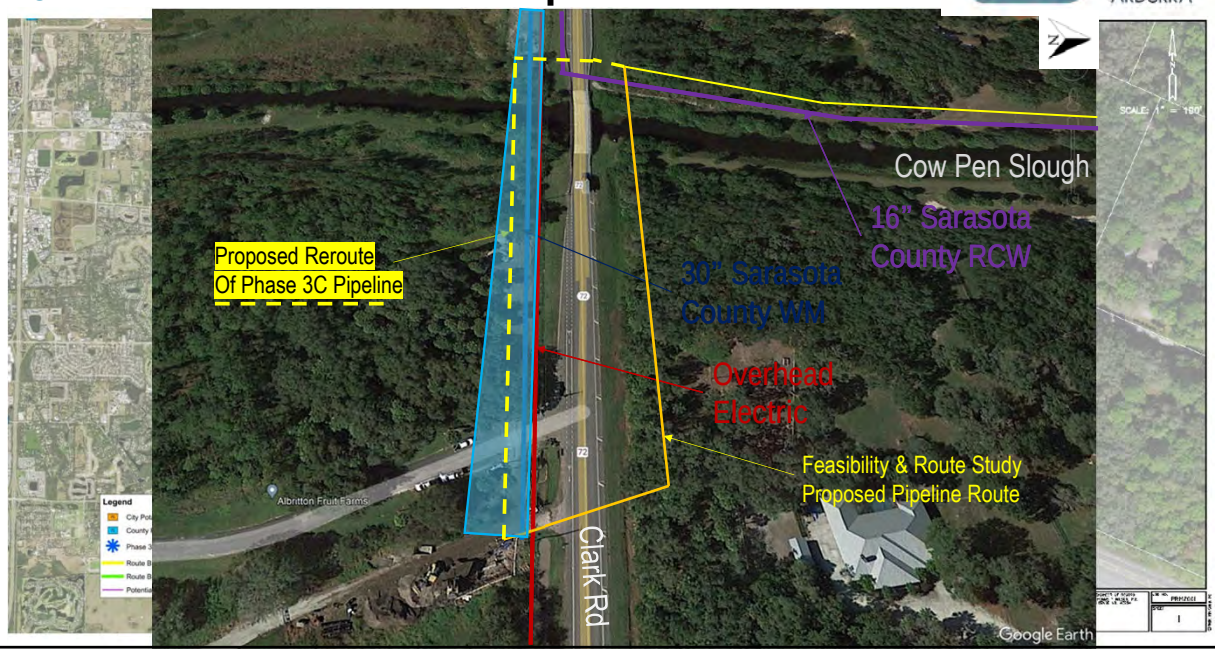
9

02 Route Revision • Existing Easements



10

02 Route Revision • Proposed Reroute



11



01 Project Background

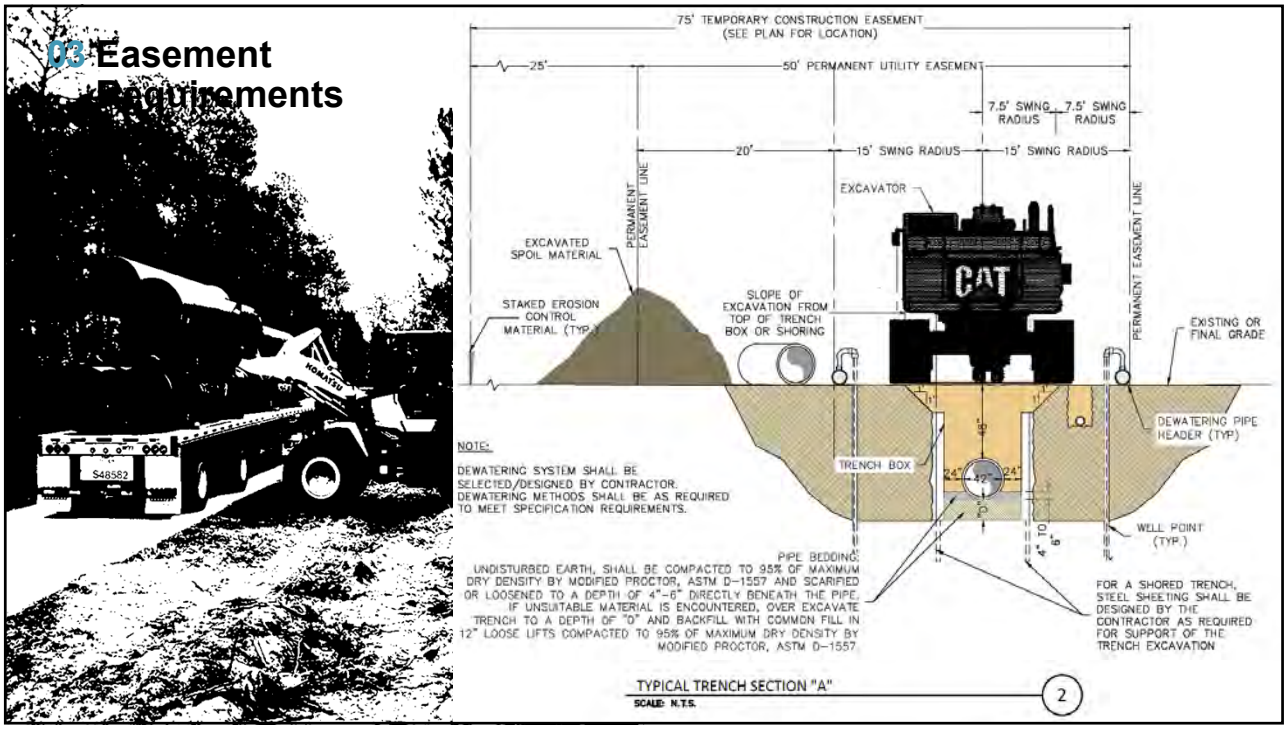
02 Proposed Route Revision

03 **Authorization for Property Acquisition**

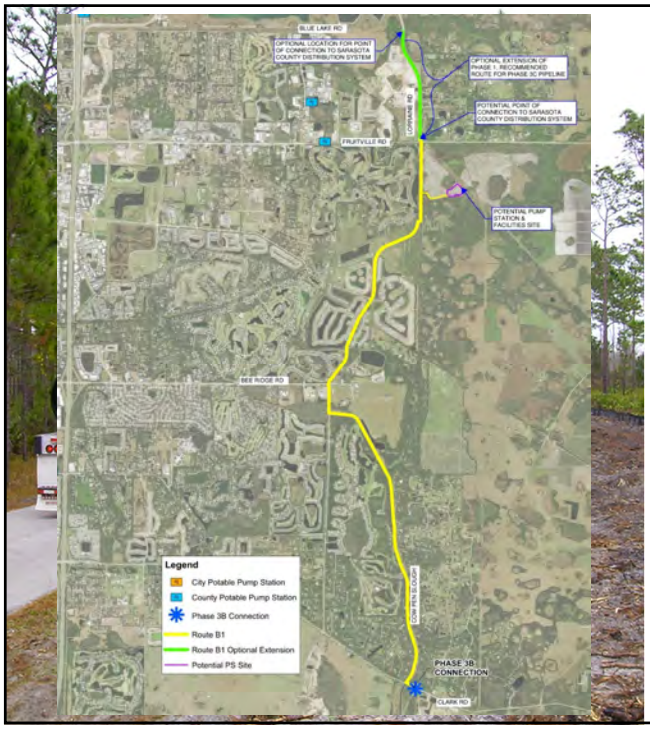
04 PDB Guaranteed Maximum Price

12

03 Easement Requirements



13

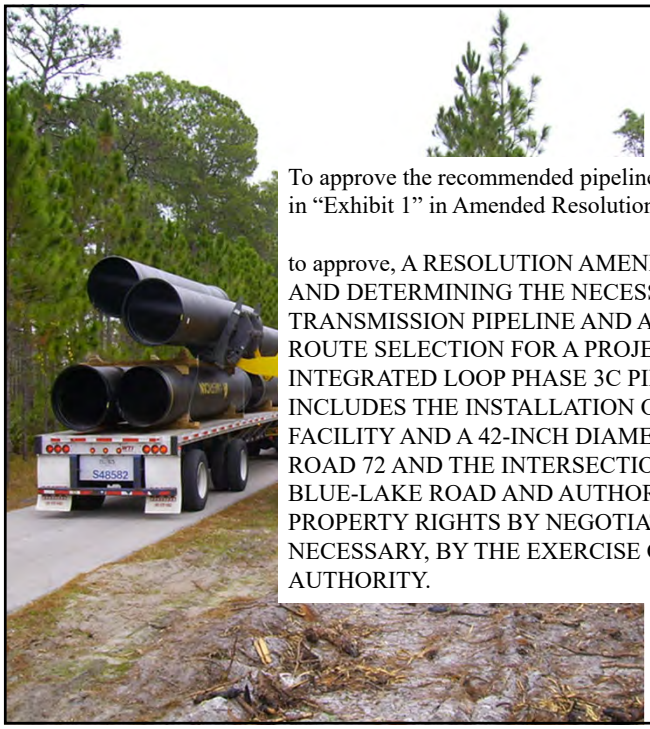


03 Phase 3C Easements

- **14 Permanent Pipeline Easements**
- **14 Temporary Construction Easements**

As shown in "Exhibit 2" of the Amended Resolution 22-03

14



03 Motion

To approve the recommended pipeline revision of the Project, as identified in “Exhibit 1” in Amended Resolution No. 2022-03 and,

to approve, A RESOLUTION AMENDING RESOLUTION NO. 2022-03 AND DETERMINING THE NECESSITY TO CONSTRUCT A TRANSMISSION PIPELINE AND APPURTENANT FACILITIES AND ROUTE SELECTION FOR A PROJECT KNOWN AS THE REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE PROJECT WHICH INCLUDES THE INSTALLATION OF A PUMPING AND STORAGE FACILITY AND A 42-INCH DIAMETER PIPELINE BETWEEN STATE ROAD 72 AND THE INTERSECTION OF LORRAINE ROAD AND BLUE-LAKE ROAD AND AUTHORIZING THE ACQUISITION OF PROPERTY RIGHTS BY NEGOTIATION AND CONTRACT AND, IF NECESSARY, BY THE EXERCISE OF EMINENT DOMAIN AUTHORITY.

15



01 Project Background

02 Proposed Route Revision

03 Authorization for Property Acquisition

04 **PDB Guaranteed Maximum Price**

16

Progressive Design-Build Phase 1 60% Design



Regional Pump Station at Carlton WTP Sufficient for Sarasota County Pressure Requirements



17

Progressive Design-Build Phase 2 Amendment

PDB PHASE 2 FINAL DESIGN	$	2,262,182.37
PDB PHASE 2 PIPELINE CONSTRUCTION	$	37,802,954.64
PDB PIPELINE CONTINGENCY/ALLOWANCE	$	9,868,133.24

TOTAL GMP $49,933,270.25

18

Progressive Design-Build Phase 2 Amendment

SIZE	Item	QTY	UOM	Unit Price	Extension
H	**ALLOWANCE/CONTINGENCY**				
	Design-Builder Construction Contingency	14.0%	LS	$ 43,473,070.14	$ 6,080,301.64
	Phase 2 Engineering Allowance	1	LS	$60,144	$ 60,144.00
	Owner Weather Allowance	1	LS	$314,054	$ 314,053.78
	Owner Price Escalation Allowance	1	LS	$281,563	$ 281,562.56
	Owner Import/Domestic Material Allowance	1	LS	$705,362	$ 705,362.38
	Owner Easement Delay Allowance	1	LS	$672,154	$ 672,153.55
	Owner Environmental Allowance	1	LS	$384,889	$ 384,888.86
	Owner Fruitville Casing Allowance	1	LS	$184,417	$ 184,416.99
	Owner Fiber Optic Allowance	1	LS	$907,249	$ 907,249.47
	Builder's Risk Allowance	1	LS	$278,000	$ 278,000.00
	Addl. Owner Allowance	0%	LS	$ 43,473,070.14	$ -
T	**SUBTOTAL ALLOW/CONT.**				**$ 9,868,133.24**

19

Progressive Design-Build – PARALLEL COSTS

ITEM	ESTIMATED COST (UPPER LIMIT)
PDB PHASE 1 PRECON - 60% DESIGN	$ 3,145,450.00
OWNER DIRECT PURCHASE	$ 5,670,115.50
STANTEC WO'S	$ 749,000.00
BROWN & CALDWELL WO'S	$ 200,000.00
MITIGATION & INSURANCE	$ 70,000.00
THIRD PARTY REVIEW	$ 100,000.00
LEGAL ASSISTANCE	$ 300,000.00
EASEMENTS (Estimate)	$ 2,090,000.00

TOTAL PARALLEL COSTS $12,324,565.50

20

Progressive Design-Build Phase 2 Amendment

BUDGET ITEM	CURRENT BUDGET	
INTERLOCAL AGREEMENT	$	34,800,000
SWFWMD CFI	$	25,300,000
SWFWMD (DEP-AWS)	$	2,500,000
TOTAL	$	62,600,000

2023/2024 STATE GRANT REQUEST FOR $5M

21

Progressive Design-Build Phase 2 Amendment

TOTAL PARALLEL COSTS $12,324,565.50

TOTAL GMP $ 49,933,270.25

TOTAL PARALLEL & GMP $62,257,835.75*

CURRENT BUDGET $62,600,000.00

*Includes $9.87M in Allowance / Contingency

22

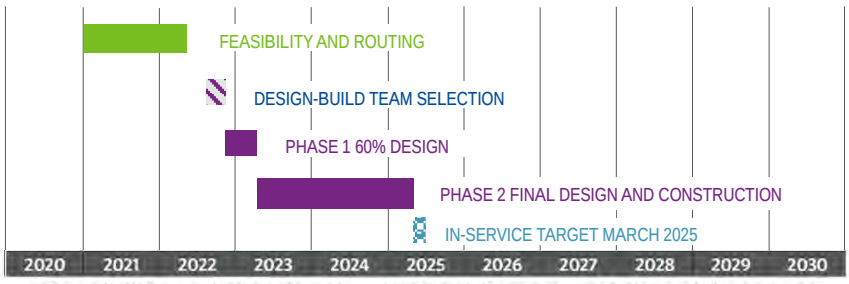
04 Motion

Motion:

Motion – Board Authorization for the Executive Director and General Counsel to finalize and execute a contract amendment with Garney Companies, Inc. to complete design and construction of the Regional Integrated Loop Phase 3C Pipeline Project for a Guaranteed Maximum Price not to exceed **$49,933,270.25**.

23

08 Next Steps and Schedule



Pipeline in service by 2025

- Feasibility and Routing Study Final Report and Board Approval – April 2022
- Execute Interlocal Agreement with Sarasota County – April 2022
- Progressive Design-Build Team Selection Process – August 2022
- Progressive Design-Build Team Phase 1 (60% Design) – October 2022
- Early Procurement Package & Resolution of Necessity – December 2022
- Progressive Design-Build Team Phase 2 (Final Design & Const.) GMP – April 2023
- Final Design and Substantial Construction Completion – March 2025

24

TAB B
AMENDED RESOLUTION NO. 2022-03

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

AMENDED RESOLUTION NO. 2022-03

A RESOLUTION TO BE ENTITLED:

A RESOLUTION AMENDING RESOLUTION NO. 2022-03 AND DETERMINING THE NECESSITY TO CONSTRUCT A TRANSMISSION PIPELINE AND APPURTENANT FACILITIES AND ROUTE SELECTION FOR A PROJECT KNOWN AS THE REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE PROJECT WHICH INCLUDES THE INSTALLATION OF A PUMPING AND STORAGE FACILITY AND A 42-INCH DIAMETER PIPELINE BETWEEN STATE ROAD 72 AND THE INTERSECTION OF LORRAINE ROAD AND BLUE-LAKE ROAD AND AUTHORIZING THE ACQUISITION OF PROPERTY RIGHTS BY NEGOTIATION AND CONTRACT AND, IF NECESSARY, BY THE EXERCISE OF EMINENT DOMAIN AUTHORITY.

WHEREAS, Peace River Manasota Regional Water Supply Authority ("Authority") is an interlocal governmental agency whose member governments and customers are Charlotte County ("Charlotte"), DeSoto County ("DeSoto"), Manatee County ("Manatee"), Sarasota County ("Sarasota"), and the City of North Port ("North Port"); and

WHEREAS, the Authority is authorized by Section 373.713, Florida Statutes, to acquire water and water rights; to develop, store and transport water; and to provide, sell, and deliver water for county or municipal purposes and uses; and

WHEREAS, the Authority is authorized and required by Section 373.713, Florida Statutes, to design, construct, operate, and maintain facilities in the locations and at the times necessary to ensure an adequate water supply will be available to all member governments and customers within the Authority's geographic territory; and

WHEREAS, the Authority has completed the Integrated Regional Water Supply Master Plan 2020 (the "Master Water Plan") that includes recommendations for the construction and development of new sources of potable water, pipelines and appurtenant facilities; and

WHEREAS, the Authority's development of these potential water sources as regional supplies will benefit from continued expansion and construction of a regional integrated loop transmission system (the "Regional Integrated Loop System") to move water from existing and new sources to the areas of demand; and

WHEREAS, the Authority has adopted the Regional Integrated Loop Phase 3C Pipeline Feasibility and Routing Study that identifies pipeline capacity, routes, connections, and

appurtenant facilities needed for Authority purposes. The Regional Integrated Loop System is intended to expand the capacity and enhance the reliability of the Authority's regional water utility system to ensure an adequate water supply will be available to all members, customers and partners of the Authority; and

WHEREAS, Sarasota has requested that the first phase of the Regional Integrated Loop Phase 3C Pipeline Project (Project), which includes installation of a 42-inch diameter pipeline between State Road 72 and the intersection of Lorraine Road and Fruitville Road be constructed. The project will meet Sarasota's water supply needs in that area as well as advance the regional transmission system toward a future interconnection with the Manatee's water system; and

WHEREAS, the Project includes a transmission pipeline, flow metering facilities, and appurtenant facilities (the "Pipeline Facilities") which connect the terminus of the Authority's existing Regional Integrated Loop System at Clark Road to Sarasota's existing distribution system near the vicinity of Lorraine Road and Fruitville Road, a total distance of approximately 7.2 miles; and

WHEREAS, the Authority has determined that the construction of the Pipeline Facilities for the Project is necessary to enable the Authority to meet projected water needs of the Authority's public water utility system; and

WHEREAS, the construction of the Pipeline Facilities for the Project is in the public interest, for the public benefit, and necessary for carrying out the Authority's purposes; and

WHEREAS, the Authority has determined an appropriate route and location for the Pipeline Facilities for the Project and in determining the route of the Pipeline Facilities, and the land rights needed for the construction, operation, and maintenance of the Pipeline Facilities, the Authority has considered, and has weighed, among other things, the availability of alternative routes, environmental impact, safety factors, long-range planning, constructability, public impacts, operations and maintenance requirements, land and costs of the Project; and

WHEREAS, an alternative route study and preferred route for the Project were presented to the Authority's Board of Directors at the regular Board meeting on April 6, 2022 and the Authority's Board of Directors has adopted Resolution No. 2022-03 which established, among other things, the route for the project and authorized that the route be surveyed and further investigation conducted as necessary for the purpose of determining the condition and description of the properties necessary for the project; and

WHEREAS, upon further investigation a modification of the route is appropriate and in the public interest and accordingly the route adopted in Resolution No. 2022 – 03 (Exhibit "1") is amended as provided herein; and

WHEREAS, the necessary approvals from the appropriate governmental agencies to construct, operate, and maintain the Pipeline Facilities have already been obtained or it is reasonably likely that they will be obtained; and

NOW, THEREFORE, BE IT RESOLVED by the Authority's Board of Directors that those matters set forth in the foregoing recitals are hereby adopted, ratified, and found; and further

RESOLVED, that Resolution No. 2022-03 is hereby ratified and confirmed and shall remain in full force and unchanged except as expressly stated herein.

RESOLVED, that the Project is necessary and in the public interest and for a public purpose. The Route for the Project adjacent to State Road 72 (Clark Road) is determined to be that which is shown on Exhibit "2", attached hereto, and which modifies that route described as Phase 1 Alternative Route B1 in the "Regional Integrated Loop Phase 3C Pipeline Feasibility and Routing Study". It is hereby determined that the western alignment of the approved route shall continue southward across Clark Road and then proceed along the south side of Clark Road as depicted on the map identified as Exhibit "2". The Board has determined that the modification of the route as depicted on Exhibit "2" is in the public interest as it will cost less than the previous alignment and will facilitate the future operation and maintenance of the facility and result in less impact to property owners. The modification of the route as depicted on Exhibit "2" is hereby adopted as the Project route after the consideration of, among other things, the availability of alternative routes, environmental impacts, safety factors, long-range planning, constructability, operation and maintenance requirements, public impacts and costs of the project. This determination is made upon consideration of the information provided by the Authority's staff and consultants as well as the information provided and relied on in connection with the adoption of Resolution No. 2022-03; and

RESOLVED, that the Authority, its officers, employees, contractors and attorneys are hereby authorized and directed to acquire by negotiation and contract those properties interests as are necessary to acquire the fee, permanent easements and/or temporary construction easements needed for the Project including those parcels of property located south of Clark Road along the Project route depicted on Exhibit "2"; and

RESOLVED, that the Authority, its officers, employees, contractors and attorneys are hereby authorized and directed to acquire by negotiation and contract and the use of eminent domain authority those property rights, including, fee, permanent easements and/or temporary construction easements as are necessary for the construction operation and maintenance of the Project, as depicted on the surveys attached hereto as Exhibit "3". The acquisition of the property rights across, above, across, through and under parcels of real estate as depicted on Exhibit "3" is in the public interest as these property rights are necessary for the completion of the Project. The easement rights to be acquired in the parcels identified in Exhibit "3" are set forth in Exhibit "4".

RESOLVED, that this Resolution shall take effect immediately upon being passed and adopted; and further

RESOLVED, that if any phrase, portion or part of this Resolution is found to be invalid or unconstitutional by a court of competent jurisdiction, such phrase, portion or part shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remainder of the Resolution.

NOW, THEREFORE, BE IT RESOLVED, the Peace River Manasota Regional Water Supply Authority authorizes the adoption of Amended Resolution No. 22-03.

ADOPTED at a meeting of the Board of Directors at the Charlotte County Administration Building in Charlotte County, Florida, this 5th day of April 2023.

Peace River Manasota
Attest: **Regional Water Supply Authority**

Mike Coates, P.G., Executive Director

Commissioner Elton Langford
Chairman

Approved as to Form:

Douglas Manson, General Counsel for
Peace River Manasota Regional
Water Supply Authority

TAB C
AMENDED RESOLUTION NO. 2022-03 EXHIBIT 1

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 6, 2022

REGULAR AGENDA
ITEM 6

Regional Integrated Loop System Phase 3C Pipeline

Presenter - Richard Anderson, Operations Director
Tom Wilson, Project Manager for Wade Trim
Doug Manson, General Counsel

Recommended Action - **Motion** to approve the recommended pipeline route B-1, for Phase 1of the Project, as identified in the Feasibility and Routing Study for the Regional Integrated Loop Phase 3C Pipeline and, to approve RESOLUTION NO. 2022-03, "A RESOLUTION DETERMINING THE NECESSITY TO CONSTRUCT A TRANSMISSION PIPELINE AND APPURTENANT FACILITIES AND ROUTE SELECTION FOR A PROJECT KNOWN AS THE REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE PROJECT WHICH INCLUDES THE INSTALLATION OF A PUMPING AND STORAGE FACILITY AND A 42-INCH DIAMETER PIPELINE BETWEEN STATE ROAD 72 AND THE INTERSECTION OF LORRAINE ROAD AND BLUE-LAKE ROAD."

Motion to approve Interlocal Agreement for the Regional Integrated Loop Phase 3C Pipeline between the Peace River Manasota Regional Water Supply Authority and Sarasota County.

The Feasibility and Routing Study for Phase 3C Regional Integrated Loop Pipeline Project (Project) is complete. The Project recommendations include construction of a portion of the Regional Integrated Loop Pipeline from the connection extending north from the existing terminus of the regional system at Clark Road near the National Cemetery, to the vicinity of Blue-Lake and Lorraine Roads, a total distance of approximately 10.0 miles, including a regional pumping and storage facility. Construction of this portion of the Integrated Regional Loop system will meet Sarasota County water supply needs in that area as well as advance the regional transmission system toward a future interconnection with the Manatee County water system.

a. Recommended Route and Resolution 2022-03

Project team members from the Authority's consultant (Wade Trim) will discuss the Phase 3C pipeline route analysis, pipe size, pumping and storage facility considerations, update probable costs for the project, and identify the recommended route for the pipeline. Approval of Resolution 2022-03 will enable the Authority to begin the surveying and property acquisition work needed for construction of the project.

b. Interlocal Agreement for Regional Integrated Loop System Phase 3C Interconnect [Segment from SR 72 to Fruitville Road] between the Peace River Manasota Regional Water Supply Authority and Sarasota County.

The first phase of the Regional Phase 3C Interconnect Project which includes installation of approximately

10.0 miles of 42-inch diameter pipeline between State Road 72 and intersection of Lorraine Road and Blue-Lake Road, and a pumping and storage facility is scheduled for completion by March 2025. The attached Interlocal Agreement (IA) between the Authority and Sarasota County covers financial, ownership, capacity, property use, coordination, and other pertinent requirements of the project. Execution of the IA will enable the Authority to advance the project financing, design, and construction to meet the March 2025 completion date.

Budget Action: No action needed.

Attachments:
Tab A Resolution 2022-03
Tab B Interlocal Agreement
Tab C Feasibility and Routing Study for the Phase 3C Regional Interconnect
Tab D Presentation Materials

TAB A
Resolution 2022-03

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

RESOLUTION NO. 2022-03

A RESOLUTION TO BE ENTITLED:

A RESOLUTION DETERMINING THE NECESSITY TO CONSTRUCT A TRANSMISSION PIPELINE AND APPURTENANT FACILITIES AND ROUTE SELECTION FOR A PROJECT KNOWN AS THE REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE PROJECT WHICH INCLUDES THE INSTALLATION OF A PUMPING AND STORAGE FACILITY AND A 42-INCH DIAMETER PIPELINE BETWEEN STATE ROAD 72 AND THE INTERSECTION OF LORRAINE ROAD AND BLUE-LAKE ROAD.

WHEREAS, Peace River Manasota Regional Water Supply Authority (**"Authority"**) is an interlocal governmental agency whose member governments and customers are Charlotte County (**"Charlotte"**), DeSoto County (**"DeSoto"**), Manatee County (**"Manatee"**), Sarasota County (**"Sarasota"**), and the City of North Port; and

WHEREAS, the Authority is authorized by Section 373.713, Florida Statutes, to acquire water and water rights; to develop, store and transport water; and to provide, sell, and deliver water for county or municipal purposes and uses; and

WHEREAS, the Authority is authorized and required by Section 373.713, Florida Statutes, to design, construct, operate, and maintain facilities in the locations and at the times necessary to ensure an adequate water supply will be available to all member governments and customers within the Authority's geographic territory; and

WHEREAS, the Authority has completed the Integrated Regional Water Supply Master Plan 2020 (the "Master Water Plan") that includes recommendations for the construction and development of new sources of potable water, pipelines and appurtenant facilities; and

WHEREAS, the Authority's development of these potential water sources as regional supplies will benefit from continued expansion and construction of a regional integrated loop transmission system (the "Regional Integrated Loop System") to move water from existing and new sources to the areas of demand; and

WHEREAS, the Authority has adopted the Regional Integrated Loop Phase 3C Pipeline Feasibility and Routing Study that identifies pipeline capacity, routes, connections, and appurtenant facilities needed for Authority purposes. The Regional Integrated Loop System is intended to expand the capacity and enhance the reliability of the Authority's regional water utility system to ensure an adequate water supply will be available to all members, customers and partners of the Authority; and

WHEREAS, Sarasota has requested that the first phase of the Regional Integrated Loop Phase 3C Pipeline Project (Project), which includes installation of a 42-inch diameter pipeline between State Road 72 and the intersection of Lorraine Road and Blue-Lake Road, and a regional pumping and storage facility be constructed. The project will meet Sarasota's water supply needs in that area as well as advance the regional transmission system toward a future interconnection with the Manatee's water system; and

WHEREAS, the Project includes a transmission pipeline, flow metering facilities, pumping, storage and appurtenant facilities (the "Pipeline Facilities") which connect the terminus of the Authority's existing Regional Integrated Loop System at Clark Road to Sarasota's existing distribution system near the vicinity of Blue-Lake and Lorraine Roads, a total distance of approximately 10.0 miles; and

WHEREAS, the Authority has determined that the construction of the Pipeline Facilities for the Project is necessary to enable the Authority to meet projected water needs of the Authority's public water utility system; and

WHEREAS, the construction of the Pipeline Facilities for the Project is in the public interest, for the public benefit, and necessary for carrying out the Authority's purposes; and

WHEREAS, the Authority has determined an appropriate route and location for the Pipeline Facilities for the Project and in determining the route of the Pipeline Facilities, and the land rights needed for the construction, operation, and maintenance of the Pipeline Facilities, the Authority has considered, and has weighed, among other things, the availability of alternative routes, environmental impact, safety factors, long-range planning, constructability, public impacts, operations and maintenance requirements, land and costs of the Project; and

WHEREAS, an alternative route study and preferred route for the Project were presented to the Authority's Board of Directors at the regular Board meeting on April 6, 2022; and

WHEREAS, the necessary approvals from the appropriate governmental agencies to construct, operate, and maintain the Pipeline Facilities have already been obtained or it is reasonably anticipated that they will be obtained; and

NOW, THEREFORE, BE IT RESOLVED by the Authority's Board of Directors that those matters set forth in the foregoing recitals are hereby adopted, ratified, and found; and further

RESOLVED, that the Project is necessary and in the public interest and for a public purpose. The Route for the Project is determined to be that which is shown on Exhibit "A", attached hereto, and which is described as Phase 1 Alternative Route B1 in the "Regional Integrated Loop Phase 3C Pipeline Feasibility and Routing Study"; and further the Authority hereby authorizes said route to be surveyed and further investigated as necessary for the purpose of determining the condition and description of the properties necessary for the Project; and

RESOLVED, that the Authority, its officers, employees, contractors and attorneys are hereby authorized and directed to acquire by negotiation and contract those properties as may be necessary to acquire the fee, permanent easements and/or temporary construction easements needed for the Project; and

RESOLVED, that this Resolution shall take effect immediately upon being passed and adopted; and further

RESOLVED, that if any phrase, portion or part of this Resolution is found to be invalid or unconstitutional by a court of competent jurisdiction, such phrase, portion or part shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remainder of the Resolution.

NOW, THEREFORE, BE IT RESOLVED, the Peace River Manasota Regional Water Supply Authority authorizes Resolution No. 2022-03.

ADOPTED at a meeting of the Board of Directors at the Manatee County Administration Building in Manatee County, Florida, this 6th day of April, 2022.

Peace River Manasota
Regional Water Supply Authority

Attest:

Mike Coates, P.G.
Executive Director

Commissioner
Chairman

Approved as to Form:

Douglas Manson
General Counsel for Peace River Manasota
Regional Water Supply Authority

TAB B
Interlocal Agreement

INTERLOCAL AGREEMENT FOR
REGIONAL INTEGRATED LOOP SYSTEM PHASE 3C INTERCONNECT
BETWEEN
THE PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY AND
SARASOTA COUNTY

THIS Interlocal Agreement for Regional Integrated Loop System Phase 3C Interconnect ("Agreement") is entered into by and between the Peace River Manasota Regional Water Supply Authority ("Authority"), an independent special district created and existing pursuant to Section 373.1962, Florida Statutes, now found in Section 373.713, Florida Statutes, and Section 163.01, Florida Statutes, acting by and through its governing Board of Directors; and Sarasota County ("Sarasota"), a political subdivision of the State of Florida, acting by and through its Board of County Commissioners, which has the authority to provide water utility service within Sarasota County.

RECITALS:

WHEREAS, both the Authority and Sarasota are authorized to enter into interlocal agreements pursuant to Chapter 163, Florida Statutes; and

WHEREAS, the Authority; Sarasota County, a political subdivision of the State of Florida; Manatee County, a political subdivision of the State of Florida; Charlotte County, a political subdivision of the State of Florida; DeSoto County, a political subdivision of the State of Florida; and the City of North Port, a municipal corporation of the State of Florida (collectively "Customers") entered into the Peace River Manasota Regional Water Supply Authority Master Water Supply Contract, effective October 5, 2005, as amended ("MWSC"); and

WHEREAS, Section 22 of the MWSC provides that the Authority must have written consent of the governing body of a Customer in whose jurisdiction the Authority intends to acquire,

develop, construct or operate new Authority Water Supply Facilities (the "Host County") and the Host County shall notify the Authority of its decision to grant or deny consent to the Authority to acquire, develop, construct or operate the new Authority Water Supply Facilities; and

WHEREAS**,** the Authority has notified Sarasota of its intent to design and construct the Regional Integrated Loop System Phase 3C Interconnect (Project), which will be owned and operated by the Authority; and

WHEREAS, upon the effective date of this Agreement, Sarasota, as the Host County, has given its consent to the construction of the Project and both parties desire to set forth their respective duties and obligations with respect to the construction and use of the Project; and

WHEREAS, Sarasota and the Authority agree to connect Sarasota's utility system to the Project at Delivery Point(s) that will be designated as additional Delivery Point(s) under section 10.3 of the MWSC; and

WHEREAS, this Agreement is predicated upon a proposed cooperative funding agreement between the Southwest Florida Water Management District ("SWFWMD") and the Authority for the Project, which would provide that SWFWMD fund at least fifty percent (50%) of the eligible Project costs according to SWFWMD policies; and

WHEREAS, this Agreement does not entitle Sarasota to a greater Water Allocation than that which is authorized pursuant to the provisions of the MWSC and any amendments thereto; and

WHEREAS, the parties recognize and agree that modifications and clarifications will be needed to the Project and that such changes shall be made by mutual agreement by the Executive Director of the Authority and the Sarasota County Administrator.

NOW, THEREFORE, in consideration of the above stated Recitals, mutual covenants and

obligations contained herein, and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. **INCORPORATION OF RECITALS.** The foregoing recitals are true and correct and are incorporated herein by reference.

2. **DEFINITIONS.** All capitalized terms used but not defined in this Agreement have the meanings ascribed to them in the MWSC unless otherwise indicated in this Agreement.

2.1 Agreement. This Interlocal Agreement for Regional Integrated Loop System Phase 3C Interconnect.

2.2 Project. The expansion of the Authority's Regional Transmission System within Sarasota County, which includes a new potable water transmission pipeline, pumping, storage and meter facilities, and ancillary components that may be revised in accordance with section 4, which is generally shown and described in the attached Exhibits 1 and 2.

3. PURPOSE AND TERM. This Agreement sets forth the rights and obligations of the parties with respect to the construction and use of the Project. The MWSC terms and conditions also apply to all aspects of the potable water delivered pursuant to this Agreement. The term of this Agreement begins on its effective date and will end when Sarasota no longer receives potable water from the Authority pursuant to the MWSC and any extensions and amendments.

4. CONSENT/NEW DELIVERY POINT. Sarasota consents to the construction and operation of the Project under section 22 of the MWSC. The Project's Delivery Point(s) shall be added by mutual agreement of the parties as provided in section 10.3 of the MWSC.

5. DESIGN AND CONSTRUCTION OF THE PROJECT/WATER DELIVERY. The Project shall be capable of supplying Sarasota potable water at an adequate

flow and water pressure to meet Sarasota's water needs as may be deemed appropriate and as described in Exhibits 1 and 2. The specific details of the Project, e.g., Project location, alignment, Delivery Point(s), delivery pressures, flows, and Project components, will be developed and mutually agreed to by the parties. As may be needed, authority and responsibility is delegated to the Executive Director of the Authority and the Sarasota County Administrator to modify, clarify, or revise the engineering, design, construction and operation specifications of the Project as agreed in writing by both parties and Exhibits 1 and 2 shall be replaced to reflect such mutually agreed in written revisions. Any pipeline or utility appurtenances owned by Sarasota shall be located so as to maintain a reasonable clearance on all sides of the Project to allow for necessary operations and maintenance access. The Authority agrees to make reasonable efforts not to interfere with any Sarasota operations on Sarasota-owned lands and rights-of-way during the construction of the Project. Sarasota agrees to make reasonable efforts not to interfere with any Authority operations on Sarasota-owned lands and rights-of-way during the construction of the Project.

6. COLLABORATIVE CONSTRUCTION. The Authority and Sarasota will ensure that their respective consultants and contractors will work in a cooperative fashion to expedite the Projects in the most cost-effective manner.

7. FUNDING FROM SARASOTA. Sarasota shall contribute an estimated $29,000,000 based on current forecasts for the Project's costs. A breakdown of Sarasota's estimated contributions are shown in Exhibit 3. Sarasota's final contribution shall be based on the final cost of the Project paid by the Authority but will not exceed $34,800,000 ("Sarasota Cap"). Sarasota will fund its obligations under this Agreement as provided in section 16.2 of the MWSC.

8. AUTHORITY FUNDING AND HYDRAULIC CAPACITY ENTITLEMENT. Funding by the Authority will include the monies for the Project that the

Authority receives from SWFWMD and any other state or federal source. The Authority shall be responsible for all engineering and construction costs that exceed the Sarasota Cap. All Hydraulic Capacity in the Project that is not granted to Sarasota pursuant to section 9 shall be retained by the Authority. All operation and maintenance costs for the Project shall be incorporated into the Authority's annual rate applicable to the Customers of the Authority pursuant to the MWSC. If the engineer's cost estimate for the Project exceeds the Total Project Cost for the Project shown on Exhibit 3, the Authority shall have the option to declare this Agreement null and void.

9. SARASOTA HYDRAULIC CAPACITY ENTITLEMENT. Sarasota's Hydraulic Capacity Entitlement in the Project shall be determined by calculating its percentage share of the final cost of the Project after its completion, with the Executive Director of the Authority and the Sarasota County Administrator certifying in writing the final percentage share of the cost to the Authority and Sarasota.

10. PAYMENT FOR USE OF HYDRAULIC CAPACITY ENTITLEMENT.

10.1 If a Customer requests to purchase Hydraulic Capacity Entitlement for this Project, the Authority will notify Sarasota in writing the amount (percentage) of Hydraulic Capacity the Customer requests to purchase ("Purchase Request"). Sarasota shall have Thirty (30) days from the receipt of the Purchase Request to notify the Authority in writing if it will sell any of its Hydraulic Capacity Entitlement and designate the percent amount for sale. Whether to sell, and the amount to sell, are in the sole discretion of Sarasota. If Sarasota does not wish to sell any portion of its Hydraulic Capacity, the Authority may sell a portion of Authority capacity in the pipeline. Once the amount the Customer will purchase is determined, Customer and Authority will enter into an agreement establishing Customer's Hydraulic Capacity Entitlement. The Initial Capacity Fee shall be calculated based on the depreciated value of the pipeline using a 50-year

service life, and paid to party or parties that supply the Hydraulic Capacity in whole or in part on a pro-rata basis on the percentage supplied by Sarasota or the Authority. See Spreadsheet Example at Exhibit 4 for methodology.

10.2 Once a Customer purchases Hydraulic Capacity Entitlement, the Customer becomes responsible for paying its pro-rata percentage of the annual debt service for the remaining Debt Term of the Project.

11. REAL PROPERTY AND EASEMENTS.

11.1 Real Property Acquisition. Sarasota shall cooperate with the Authority in the Authority's acquisition of all interests in real property (if any) necessary for the Project. Sarasota shall pay all reasonable costs for acquisition of real property interests necessary for the Project. The Authority shall involve Sarasota with the property valuations prior to acquisitions.

11.2 Any property located in Sarasota County acquired by the Authority for the Project shall be transferred in fee simple to the County after the Authority has recorded an easement pursuant to this section, in its name, necessary for the Project.

11.3 Easements. Sarasota and the Authority will execute the necessary documents, including easements or license agreements for lands owned by Sarasota.

11.3.1 Construction Easements. Sarasota shall grant the necessary construction easements to the Authority to allow for the construction of the Project at no cost to the Authority. The Authority shall provide in the contracts with all contractors for the Project, that in addition to the Authority, Sarasota shall have the authority to issue a stop work demand if a construction activity endangers, interferes or damages existing Sarasota facilities along the Project route.

11.3.2 Perpetual, Nonexclusive and Exclusive Easements. Sarasota shall grant perpetual, nonexclusive and exclusive easements to the Authority for all real property owned by Sarasota on

or within which the Project is located at no cost to the Authority. Exclusive easements will be issued for lands beneath and immediately adjacent to new storage tanks, pumping stations and electrical buildings for the Project. In addition, Sarasota shall cause to be conveyed to the Authority all easements covering areas needed to access and operate the Project by recordable document in a form satisfactory to both the Authority and Sarasota at no cost to the Authority.

11.3.3 Ownership. The Authority shall retain in its own name any easement interest in real property acquired by or granted to the Authority in connection with the Project.

12. PERMITS. The Authority shall use its best efforts to obtain all permits necessary to construct and operate the Project, and Sarasota shall promptly cooperate with the Authority in obtaining such permits.

13. OPERATIONAL PROTOCOL. The Authority Executive Director and Sarasota County Administrator shall revise the existing written operational protocol developed for the Phase 3B Regional Interconnect Project ("Operational Protocol") to include protocol for operating and maintenance of the Project prior to the commencement of construction of the Project. At a minimum, the Operational Protocol will define the rights and obligations of the responsible parties with respect to the operations, maintenance and regulatory activities necessary for the Authority to meet its obligation to provide potable water to Sarasota. Nothing in the Operational Protocol shall conflict or supersede this Agreement. As may be needed, authority and responsibility is delegated to the Executive Director of the Authority and the County Administrator of Sarasota to modify, clarify and revise the Operational Protocol upon mutual agreement of both parties.

14. COMPLETION DATE. The Authority shall make all reasonable efforts to complete the Project no later than March 1, 2025.

15. OWNERSHIP INTERESTS. Nothing within this Agreement or any previous

agreements shall be construed to convey to Sarasota any ownership interest in any portion of the assets of the Authority Water Supply Facilities and Regional Transmission System, including this Project. The Authority shall have complete ownership of the Project.

16. EXISTING INFRASTRUCTURE. All existing infrastructure owned by Sarasota shall remain owned by Sarasota unless otherwise mutually agreed upon by the parties.

17. RATES. The rates charged to Sarasota for water delivered through the Regional Transmission System and this Project shall be governed by the MWSC.

18. FUTURE CONNECTIONS. Sarasota shall give the Authority thirty (30) days notice of any intended tie-ins or interconnections to this Project and the Authority shall not unreasonably withhold its approval of any such connections.

19. NOTICES. All notices, demands, requests, and other communications hereunder shall be deemed sufficient and properly given, if in writing and delivered in person to the following addresses, or via email or sent by certified or registered mail, postage prepaid with return receipt requested, at such addresses; provided, if such notices, demands, requests or other communications are sent by mail, they shall be deemed as given on the third day following such mailing which is not a Saturday, Sunday, or a day on which United States mail is not delivered: the Authority's Executive Director's Office, 9415 Town Center Parkway, Lakewood Ranch, Florida 34202; Sarasota County Administrator, 1660 Ringling Blvd., Sarasota, Florida 34236. Any party may, by like notice, designate any further or different address to which subsequent notices shall be sent. Any notices hereunder signed on behalf of the notifying party by a duly authorized attorney at law shall be valid and effective to the same extent as if signed on behalf of such party by a duly authorized officer or employee.

20. RECORDATION OF AGREEMENT AND EFFECTIVE DATE. Upon

execution of this Agreement by the Authority and Sarasota, the Authority shall have this Agreement recorded in the Public Records of Sarasota and Manatee Counties. This Agreement shall take effect upon the filing of fully executed copies with the Clerks of the Circuit Court of Sarasota and Manatee Counties ("Effective Date").

21. APPLICABLE LAW AND VENUE. The laws of the State of Florida shall govern the validity, interpretation, construction and performance of this Agreement. The sole and exclusive venue for any litigation involving this Agreement shall be in Hillsborough County, Florida, if filed in state court and in the Middle District of Florida if filed in federal court.

22. ENTIRE AGREEMENT. The parties agree there are no commitments, agreements, or understandings concerning the Project that are not contained in this document, and that this Agreement together with the MWSC shall constitute the entire agreement of the parties with regard to the Project.

23. AMENDMENTS. This Agreement may be amended only by a writing duly executed by the Authority and Sarasota except as provided for in section 5.

24. DISCLAIMER OF THIRD PARTY BENEFICIARIES. This Agreement is solely for the benefit of the parties to this Agreement. No right or cause of action shall accrue upon or by reason hereof inure to or for the benefit of any third party.

25. WAIVER. Unless otherwise specifically provided by the terms of this Agreement, no delay or failure to exercise a right resulting from any breach of this Agreement shall impair such right or shall be construed to be a waiver thereof, but such right may be exercised from time to time and as often as may be deemed expedient. Any waiver shall be in writing and signed by the party granting such waiver. If any representation, warranty or covenant contained in this Agreement is breached by any party and thereafter waived by another party, such waiver shall be

limited to the particular breach so waived and shall not be deemed to waive, either expressed or impliedly, any other breach under this Agreement.

26. SEVERABILITY. In the event any provision of this Agreement shall, for any reason, be determined invalid, illegal or unenforceable in any respect the parties hereto shall negotiate in good faith and agree to such amendments, modifications or supplements to this Agreement or such other appropriate actions as shall, to the maximum extent practicable in the light of such determination implement and give effect to the intentions of the parties as reflected herein, and the other provisions of this Agreement, as amended, modified, supplemented or otherwise affected by such action, shall remain in full force and effect.

27. SOVEREIGN IMMUNITY. The parties intend to avail themselves of the benefits of Sections 768.28 and 163.01(9)(c), Florida Statutes, and of other statutes and common law governing sovereign immunity to the fullest extent possible. In accordance with Section 163.01(5)(o), Florida Statutes, therefore, neither party is jointly liable for the torts of the officers or employees of the other, or any other tort attributable to the other, and that each party shall be liable for the torts of its officers or employees and then only to the extent of the waiver of sovereign immunity or limitation of liability specified in Section 768.28, Florida Statutes, and other applicable law. Nothing in this Agreement is intended to inure to the benefit of any third party for the purposes of allowing any claim that would otherwise be barred under the Doctrine of Sovereign Immunity or by operation of law.

28. DISPUTES. Both parties agree to follow the directives of the "Florida Governmental Conflict Resolution Act," Chapter 164, Florida Statutes.

29. DEFAULT AND REMEDY. Recognizing the region's paramount need for a safe and dependable source of water supply, the parties agree the remedy for a breach of the Agreement

shall be specific performance, injunctive relief and any other equitable relief, as well as monetary damages.

30. ATTORNEYS FEES AND COST. In the event there is litigation arising under or related to this Agreement, each party shall pay its own attorney's fees and costs and expenses incurred in enforcing the Agreement, including attorneys' fees, expert witness fees, fees and costs on appeal, and the cost of paraprofessionals working under the supervision of an attorney, expended or incurred in connection therewith, whether resolved by out-of-court settlement, arbitration, pre-trial settlement, trial or appellate proceedings.

31. FURTHER ASSURANCES. The parties shall use all reasonable efforts to provide such information, execute such further instruments and documents and take actions as may be reasonably requested by the other party and not inconsistent with the provisions of this Agreement and not involving the assumption of obligations or liabilities different from, in excess of or in addition to those expressly provided for in this Agreement to carry out the intent of this Agreement.

32. CONSENTS. To the extent that the consent of any party to this Agreement is required as a condition to the action of other parties, such consent shall not be unreasonably withheld.

33. GOOD FAITH. The parties agree to exercise good faith and fair dealing in respect to all matters relating to this Agreement.

34. SUCCESSORS AND ASSIGNS. This Agreement shall be binding upon and inure to the benefit of the respective successors, permitted assigns, administrators and trustees of the Authority and Sarasota.

35. RELATIONSHIP OF THE PARTIES. Nothing herein shall be deemed to

constitute any party a partner or joint venturer, or to create any fiduciary relationship among the parties. Nothing within the Agreement or any previous agreement shall be construed to convey to Sarasota any ownership interest in any portion of the Authority Water System, including the Project.

36. EXECUTION OF AGREEMENT. This Agreement shall be executed in two duplicate originals, any of which shall be regarded for all purposes as an original and all of which shall constitute the same instrument.

37. SECTION CAPTIONS AND REFERENCES. The section headings and captions contained herein are included for convenience only and shall not be considered part of this Agreement or affect in any manner its construction or interpretation. Except as otherwise indicated, all references herein to sections are to sections of this Agreement.

38. AMBIGUITY. The parties agree that each one has played an equal part in the negotiation and drafting of this Agreement, and in the event any ambiguity should be asserted or realized in the interpretation or construction of this Agreement, the result of such ambiguity shall be equally assumed and realized by each party.

39. INTERLOCAL AGREEMENT. This Agreement shall constitute an interlocal agreement pursuant to section 163.01, Florida Statutes.

IN WITNESS WHEREOF, the Authority and Sarasota have executed this Agreement on _____, 2022.

ATTEST:

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

_____
Mike Coates
Executive Director

_____
Chair

Date: _____

Approved as to Form:

_____
Douglas Manson
General Counsel for the Authority

STATE OF FLORIDA
COUNTY OF

I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared _____, to me known to be the person described in and who executed the foregoing instrument on behalf of the Peace River Manasota Regional Water Supply Authority and acknowledged before me that he executed same as a free act and deed for the uses and purposes therein stated.

WITNESS my hand and official seal in the County and State last aforesaid this ___ day of , 2022.

Notary Public
Print Name: _____
My Commission Number:

BOARD OF COUNTY COMMISSIONERS
OF SARASOTA COUNTY, FLORIDA

ATTEST:

By:_____
Deputy Clerk

_____
Chair

Date:_____

Approved as to form and correctness:

_____
County Attorney

STATE OF FLORIDA
COUNTY OF

I HEREBY CERTIFY that on this day, before me, an officer duly authorized in the State aforesaid and in the County aforesaid to take acknowledgments, personally appeared _____, to me known to be the person described in and who executed the foregoing instrument on behalf of Sarasota County, Florida and acknowledged before me that he executed same as a free act and deed for the uses and purposes therein stated.

WITNESS my hand and official seal in the County and State last aforesaid this ___ day of , 2022.

Notary Public
Print Name: _____
My Commission Number:

EXHIBIT 1
Project Location & Conceptual Pipeline Alignment



EXHIBIT 2
General Description of Project Components

a) Pipeline: Approximately 10 miles of 42-inch to 48-inch diameter pipe which begins near the northern end of the existing Phase 3B Regional Interconnect with Sarasota County near SR 72, then extending generally north to the approximate vicinity of the intersection of Fruitville and Lorraine Roads where it will terminate at a new delivery location (yet to be defined) with the County.

b) Pumping and Storage: New 10 MGD (initial capacity) regional pumping station, with 2 MG to 5 MG finished water storage located near the northern end of the Phase 3C Regional Interconnect.

c) Appurtenances: Metering facilities, chemical adjustment, telemetry, back-up power supply and other appurtenances as deemed appropriate to make the project fully functional for water transfer and delivery.

d) Delivery of Potable Water: A high degree of flexibility to enable delivery of required supply and support future extension/expansion of the regional system.

EXHIBIT 3
Estimated Project Costs

Item	Total Project Cost	Sarasota Funding	SWFWMD Co-Funding
Probable Costs Subject to SWFWMD Co-Funding			
42” and 48" Diameter Pipeline	$35,620,000	$17,810,000	$17,810,000
5MG Finished Water Storage tank	$5,428,000	$2,714,000	$2,714,000
Pumping Station & Ancillary	$6,933,000	$3,466,500	$3,466,500
Subtotal Engineering & Construction	$47,981,000	$23,990,500	$23,990,500
Contingency	$11,995,250	$5,997,625	$5,997,625
Total Engineering & Construction	$59,976,250	$29,988,125	$29,988,125
Probable Costs Not Subject to SWFWMD Funding			
Property & Easements	$4,000,000	$4,000,000	
Legal & Other	$400,000	$400,000	

TAB C
Regional Integrated Loop Phase 3C Pipeline Feasibility and Routing Study

Peace River Manasota
Regional Water Supply Authority

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Regional Integrated Loop Phase 3C Pipeline

FEASIBILITY AND ROUTING STUDY

MARCH 2022

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TABLE OF CONTENTS

EXECUTIVE SUMMARY 6

1.0 INTRODUCTION 9
1.1 Background 9
1.2 Scope of Work 9
1.2.1 Schedule 11
1.2.2 Cooperative Funding 11
1.3 System Interconnects 11

2.0 ROUTE DEVELOPMENT PROCESS 13
2.1 Beginning and End Points 13
2.2 Existing Utilities 13
2.3 Data Review Summary 13
2.4 Field Reconnaissance 14
2.5 Route Evaluation Considerations/Criteria 19
2.5.1 Pump Station and Associated Facilities Siting 19
2.5.2 Public Impact 20
2.5.3 Safety 20
2.5.4 Operation and Maintenance 21
2.5.5 Consistency with Long Range Planning 21
2.5.6 Environmental and Permitting 21
2.5.7 Land Requirements 22
2.5.8 Impacts to Cultural Resources 22
2.6 ALTERNATIVE ROUTES 22
2.6.1 Phase 1 Alternative Route A1 28
2.6.2 Phase 1 Alternative Route B1 28
2.6.3 Phase 1 Alternative Route C1 29
2.6.4 Phase 2 Alternative Route A2 29
2.6.5 Phase 2 Alternative Route B2 29
2.6.6 Phase 2 Alternative Route C2 29

3.0 ROUTE SELECTION PROCESS 30
3.1 Evaluation Criteria and Weighting 30
3.2 Ranking the Routes Against the Evaluation Criteria 32
3.3 Comparative Costs and Selected Alternative 33
3.4 Recommended Phase 1 Route Alternative 33
3.5 Additional Phase 2 Route Discussion 34

4.0 PIPELINE DESIGN CRITERIA 35
4.1 Pipeline Size and Pressures 35
4.1.1 Hydraulic Modeling Scenarios 35

4.1.2 Demands 36
4.1.3 Hydraulic Model Results 37
4.2 Pipeline Bedding and Backfill Requirements 42
4.3 Thrust Restraint 42
4.4 Pipeline Appurtenances 42
4.4.1 Line Valves 42
4.4.2 Air Release Valves 42
4.5 Permit Requirements 43
4.6 Hazardous Waste Sites 43
4.7 Pipe Installation Methodology 45
4.7.1 Open-Cut Trench Installation 45
4.7.2 Trenchless Installation 45
4.8 Environmental Considerations 46
4.8.1 Wetland Impact 47
4.8.2 Wildlife Habitat Impact 48

5.0 FINAL RECOMMENDATIONS 50

LIST OF FIGURES

Figure 0-1 – Recommended Route and Phase 1 Facilities 8
Figure 2-1 – Proposed Pump Station and Facilities Site 19
Figure 2-2 – Route Study Area 24
Figure 2-3 – Potential Routes Identified 25
Figure 2-4 – Shortlisted Routes 27
Figure 4-1 – Contamination Locator Map (CLM) 44

LIST OF TABLES

Table 2-1 Public Impact – Average Annual Daily Traffic 20
Table 2-2 Property Acquisition 22
Table 3-1 Non-Cost Identifiable Route Evaluation Criteria 31
Table 3-2 Route Ranking Summary 33
Table 3-3 Alternative Route Comparative Cost and Non-Cost Criteria Ranking 33
Table 4-1: Peace River Delivery Out of Carlton WTP 36
Table 4-2: 2025 Max Day Scenario Results, Phase 3C as 42-inch Pipe 37
Table 4-3: 2025 Max Day Scenario Results, Phase 3C as 48-inch Pipe 37
Table 4-4: 2040 Max Day Normal Delivery Scenario Results, Phase 3C as 42-inch Pipe 38
Table 4-5: 2040 Max Day Normal Delivery Scenario Results, Phase 3C as 48-inch Pipe 39
Table 4-6: 2040 Max Day Emergency Delivery Scenario Results, Phase 3C as 42-inch Pipe 40
Table 4-7: 2040 Max Day Emergency Delivery Scenario Results, Phase 3C as 48-inch Pipe 40

Table 4-8: 2040 Max Day Emergency Delivery (Sub)Scenario Results, Phase 3C as 42-inch Pipe, Delivery to Manatee County only at Lakewood Ranch Boulevard 41
Table 4-9 Wetland and Other Surface Water (OSW) Impacts 47
Table 4-10 Protected Species Potentially Occurring Along the Pipeline Routes 48

LIST OF APPENDICES

Appendix A. 1" =100' Scale Conceptual Plans A-1
Appendix B. Comparable Cost Details for Alternative Routes and Cost Estimates C-1
Appendix C. Environmental Features Map C-9

Acronyms	
Table text	
FDOT	Florida Department of Transportation
SWFWMD	Southwest Florida Water Management District
FP&L	Florida Power and Light
POC	Point of Connection

EXECUTIVE SUMMARY

Regional Integrated Loop Phase 3 of the Regional Interconnect System extends the Peace River Manasota Regional Water Supply Authority's transmission system from the Carlton Water Treatment Plant to Manatee County. Phase 3 is divided into three phases A, B and C. Phase 3A, a 48-inch diameter transmission main, was completed in 2011 extending between the Carlton Water Treatment Plant and the Preymore/State Road 681 Interconnect; Regional water is delivered to a Point of Connection (POC) to Sarasota County located just west of the Central County Solid Waste Disposal Complex. Phase 3B, a 48-inch and 36-inch diameter transmission main, completed in 2020 extends the Authority's transmission system north to State Road 72 (Clark Road) near Cow Pen Slough just west of the Sarasota National Cemetery. Regional water is delivered to another Sarasota County POC located here which serves a 30" County distribution line to the west along Clark Rd. Phase 3C will extend the transmission system north to State Road 780 better known as Fruitville Road. Regional water will supply a new Sarasota County POC located near the terminus of Phase 3C near the intersection of Fruitville Rd and Lorraine Rd. Phase 3C also includes a pumping facility site with storage and chemical feed capability for water quality enhancement. After meetings with Sarasota and Manatee Counties, as well as running several scenarios using the regional integrated hydraulic model, it was learned that Sarasota County would require additional supply from the Authority at the newly planned point of connection (POC) near Fruitville Road and Lorraine Road earlier than previously projected. This water supply will be required when Manatee County ceases supplying Sarasota County up to 5MGD, mostly at Sarasota County's University Pump Station No. 1 located at Lockwood Ridge Road and University Parkway. The interlocal agreement for this County to County supply is set to expire in April 2025.

To meet this pending requirement, the Phase 3C and 3C Extension pipeline projects have been split into phases 1 and 2. Phase 1 includes the Phase 3C pipeline, the Pumping Station, storage and Facilities site and the pipeline from the pumping station to a new Sarasota POC near Fruitville Road and Lorraine Road. Phase 2 includes the Phase 3C Extension pipeline from the new Sarasota County POC to a new Manatee County POC at University Parkway and Lakewood Ranch Road. The main purpose of this Phase is to connect the regions two largest water distribution systems for resiliency allowing water exchange for emergencies, drought and planned maintenance shutdowns as needed. Manatee County does not project a need for normal water supply until 2037, so to keep water quality satisfactory in this sizeable pipeline, a water swap arrangement is recommended. This water swap would include the Authority supplying Manatee County with at least 3 MGD of supply through the new POC, and since Manatee County does not need this water, they would supply it back to Sarasota County through any of their existing four interconnections, with preference to the University Pump Station No. 1 interconnection.

To further expedite completion of the Phase 1 facilities, the delivery method has been changed to Design-Build. It is recommended that easement acquisition and the process of securing a design-build firm be initiated as soon as practicable. Alternative Route B1 is the highest ranked with respect to non-cost criteria and it also has the lowest comparative Cost.

It is recommended the Authority proceed with construction of the Phase 1 facilities including Route B1 (41,306 LF of 42-inch water transmission main), the pumping station, at least 5 MG of ground storage (10 MG ultimate) and associated site facilities including electrical equipment, generator, chemical injection, administrative building, stormwater system, driveway and parking, site utilities, etc. If the POC to Sarasota County's distribution system is moved to near the intersection of Lorraine Road and Blue Lake Road an additional 6,850 LF of 42-inch water transmission main at an estimated cost of $3,253,750 should be added to Phase 1. This second location for the POC coincides with the intersection of a 24-inch water main and a 30-inch water main owned and operated by the County.

Description	Estimated Project Cost
Phase 1 Facilities including property acquisition & 25% Contingency	$46,358,300
Optional extension to 2nd Location for POC	$3,253,750

See following Figure.

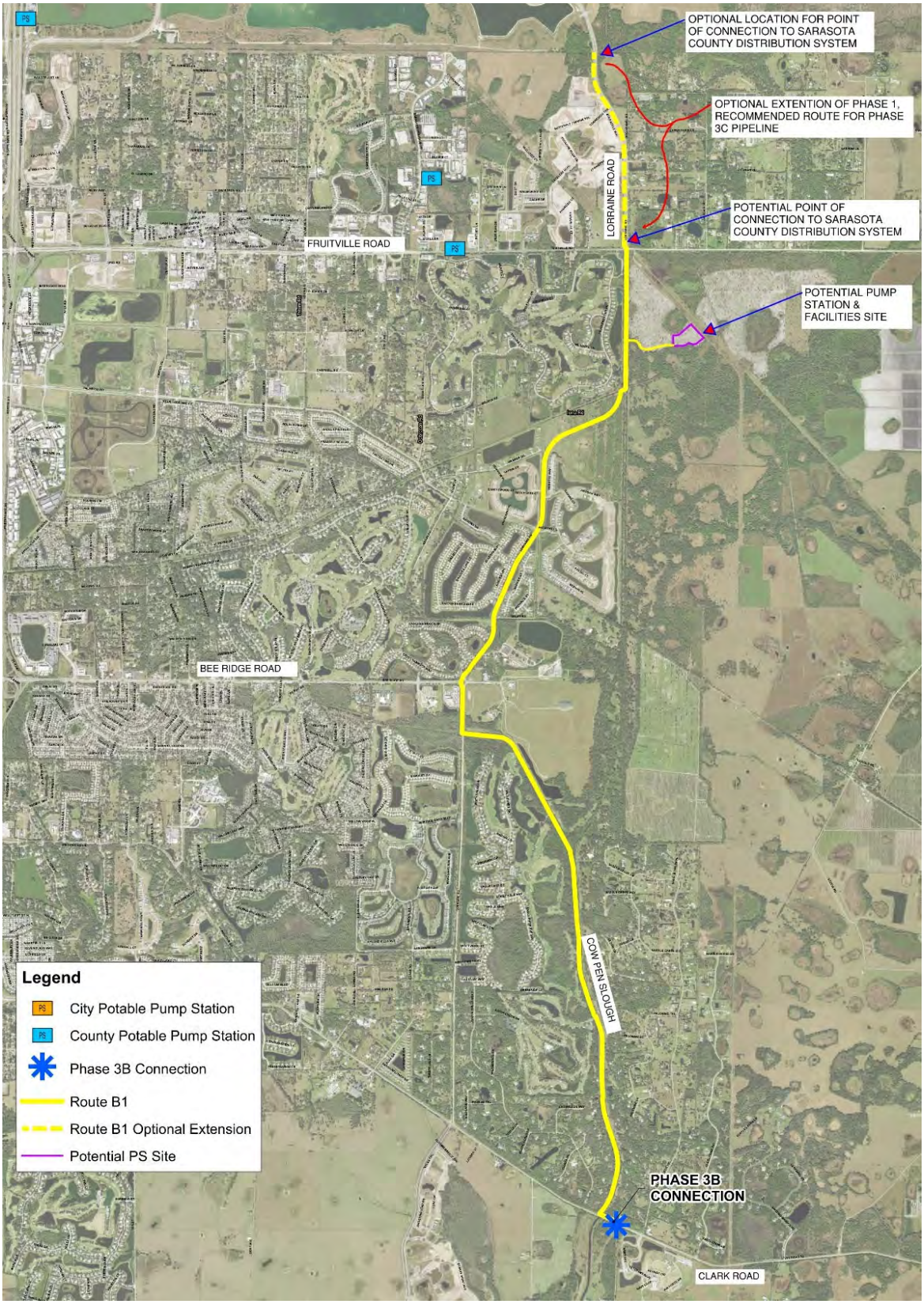


Figure 0-1 – Recommended Route and Phase 1 Facilities

1.0 INTRODUCTION

1.1 Background

Regional Integrated Loop Phase 3 of the Regional Interconnect System extends the Peace River Manasota Regional Water Supply Authority's transmission system from the Carlton Water Treatment Plant to Manatee County. Phase 3 is divided into three phases A, B and C. Phase 3A, a 48-inch diameter transmission main, was completed in 2011 extending between the Carlton Water Treatment Plant and the Preymore/State Road 681 Interconnect; Regional water is delivered to a Point of Connection (POC) to Sarasota County located just west of the Central County Solid Waste Disposal Complex. Phase 3B, a 48-inch and 36-inch diameter transmission main, completed in 2020 extends the Authority's transmission system north to State Road 72 (Clark Road) near Cow Pen Slough just west of the Sarasota National Cemetery. Regional water is delivered to another Sarasota County POC located here which serves a 30" County distribution line to the west along Clark Rd. Phase 3C will extend the transmission system north to State Road 780 better known as Fruitville Road. Regional water will supply a new Sarasota County POC located near the terminus of Phase 3C near the intersection of Fruitville Rd and Lorraine Rd. Phase 3C also includes a pumping facility site with storage and chemical feed capability for water quality enhancement. The Phase 3C Extension (future) will be constructed north from Fruitville Road north to Manatee County at a later date. Manatee County currently does not predict a need for regional water supply from the Authority until 2037 however, a connection to Manatee County's system will be a valuable resiliency feature connecting the regions two largest water systems allowing water exchange for emergencies, drought and planned maintenance shutdowns as needed. The Integrated Regional Water Supply Plan originally included a Phase 3D pipeline segment planned to extend between Fruitville Road and University Ave along Lorraine Rd to Manatee County. However, increased growth in northern Sarasota County required water sooner than expected which obligated the developer to construct a 24-inch water main in Lorraine Road from Fruitville Road to Manatee County in order to meet demands. That main is now part of Sarasota County's distribution system and is supplied from a connection to Manatee County at Lorraine Rd and University Ave. While the Phase 3C extension will be part of the Authority's transmission system to provide water to Manatee County, Sarasota County's 24-inch water main in Lorraine Road remains a significant element of the regional water distribution network.

1.2 Scope of Work

In the scope of services for Regional Integrated Loop Phase 3C Pipeline, Feasibility and Routing Study, Work Order No. 1 identifies the following general objectives:

- Identify and update (as available) water demands and delivery milestone dates at regional delivery point locations for Sarasota County and Manatee County including minimum acceptable delivery pressures;

- Meet with relevant stakeholders and developers as applicable on their own master planning efforts with the intent to capture the latest intelligence on local government long range planning or master planning improvements either planned or underway including the ability to collocate pipelines within other utility corridors;
- Identify and preliminarily evaluate no more than eight (8) possible routes defined by linked segments for the pipeline, develop preliminary screening criteria and in a workshop with Authority staff, eliminate nonviable routes and narrow the route choices to no more than three (3) plausible shortlisted routes for further consideration;
- Evaluate land acquisition requirements for each shortlisted route, delineating the relative proportion of each shortlisted route which falls upon public lands, within ROW or across private property;
- Develop multivariate qualitative criteria with weighting of criteria and scoring for the shortlisted routes relative to the qualitative concerns, costs are to be excluded from this portion of the evaluation;
- Using the regional hydraulic model, confirm delivery capability and residual pressure of the existing regional transmission system to convey water to the Phase 3C point of commencement and how these capabilities improve upon implementation of Phase 2B/2C (Authority to provide guidance on Phase 2B/2C routing, pipeline diameters and any booster pumping);
- Using the regional hydraulic model, with and without Phase 2B/2C improvements switched on, preliminarily assess pipeline diameters and the need for booster pump stations or storage and repump facilities for each of the shortlisted routes to meet defined demands and residual pressures at regional connection points;
- Project a schedule for implementation and explore how the time likely to be required for land acquisition and construction might be expected to vary between the shortlisted routes;
- Prepare maps for each shortlisted route which identify the major transportation, waterway or other utility crossings and/or challenges associated with each route;
- Develop preliminary capital costs (engineering, construction and land acquisition) for each shortlisted route identified inclusive of any booster or storage and repump facilities; and
- Prepare, deliver and reconcile review comments on the draft Feasibility and Routing Study document, finalize the report to include up to three (3) presentations to present results.

Work Order No. 2

On July 19, 2021, The Authority authorized Work Order No. 2 for additional scope of services associated with Property Acquisition assistance for the proposed pumping station and storage facilities. The identification of a satisfactory location for the pumping station is a critical component to the Feasibility and Routing Study due to the extremely high level of activity in the local real estate market at the present time. Due to market conditions, this effort required professional services to locate a parcel of the right size, zoning and location to meet project goals. This scope includes the services of a real estate agent, surveying services for legal description and acquisition sketches, Phase 1 environmental assessment, ecological assessment, and an owner's contingency.

1.2.1 Schedule

The schedule for completion of the scope of services in the agreement and issued Work Order No. 1 is 15 months from notice to proceed. The notice to proceed letter was dated January 7, 2021 corresponding to a completion date of April 7, 2022. A presentation to the Peace River Manasota Regional Water Supply Authority Board is scheduled to present the Feasibility and Routing Study on April 6th. A detailed schedule was developed early on in the project execution that indicated a completion date a month earlier; however, the original schedule proved more accurate. Several factors have influenced the schedule. The most significant was when hydraulic modeling indicated an earlier requirement for additional water supply delivery to Sarasota County. To facilitate the earlier completion of construction, Phase 3C and the Phase 3C extension were broken into construction phases 1 and 2 in order to advance completion of the Phase 3C facilities to meet Sarasota County demands in north county. To further advance construction completion, the delivery method for these facilities, originally envisioned as design, bid and build, was switched to the design-build delivery method and the consultant was requested to recommend a preferred route rather than just presenting three shortlisted routes with their characteristics. The desired milestone for placing the Phase 1 facilities into operation is April 2025 and as such, recommending a preferred route as part of this study allows project activities such as property acquisition and soliciting for a Design-Build team to take place in a timely manner to meet the project schedule. Additionally, April 2025 is currently the date which the water purchase agreement between Sarasota and Manatee counties is scheduled to expire. This will be described in greater detail in the subsection 1.3 hereinafter headed "System Interconnects".

1.2.2 Cooperative Funding

Cooperative funding for the project is being provided by the Southwest Florida Water Management District (SWFWMD). While all funding is not guaranteed at this point due to the iterative nature of the application process, the funding is expected to approach 50% of the design and construction costs. The funding is subject to schedule milestones and certain qualitative reviews. This cooperative funding demonstrates the truly regional benefits of the project.

1.3 System Interconnects

For Sarasota County, the Authority currently supplies water through three existing Points of Connection (POC's) as follows:

1. Carlton Water Treatment Facility
2. Preymore Interconnect, and
3. Clark Road Interconnect near Cow Pen Slough.

Currently, all water delivered by the Authority is metered and billed at the Carlton WTP location. Upon connection to Manatee County's system, additional metering locations may be required to properly account for all delivered water. After completion of Phase 1 of the Phase 3C facilities, another Sarasota County POC will be established in Lorraine Road right-of-way just north of Fruitville Road.

The 2025 max. day flow to this POC will be approximately 6.0 MGD and the demands at Preymore POC and Clark Road POC will be reduced.

Manatee County has no current interconnects with the Authority's transmission system. However, Manatee County does have four interconnects with Sarasota County; three of which fall in the route study area and are located as follows:

1. University Parkway at Lockwood Ridge Road (Sarasota County University Pump Station No.1).
2. University Parkway at Lakewood Ranch Boulevard.
3. University Parkway and Lorraine Road.

These interconnects are shown in Figure 2-2. Presently, Manatee County has an agreement with Sarasota County to provide up to 5 MGD of water supply to Sarasota County, with a majority of that supply delivered at Pump Station No. 1 where it is blended with the Sarasota County groundwater supply via their University Wellfield. This agreement is due to expire in April 2025. At the present time, Sarasota County and Manatee County have not entered into a contract to renew the agreement. Manatee County may need to retain that capacity in the future in order to maintain adequate supply for their own projected needs. The other two relevant interconnects currently transfer minor quantities from Manatee to Sarasota, but all three interconnects represent opportunities for transfer of emergency water supplies.

At the University Pump Station interconnect, Manatee County has a 36-inch water main extending northward and a 30-inch water main extending eastward. At the Lakewood Ranch Boulevard interconnect, Manatee County has a 36-inch water main extending northward and a 36-inch water main extending westward. Both of these two interconnects would be hydraulically capable of sharing significant quantities of water (up to 25 MGD) during an emergency. The interconnect at Lorraine Road only has a 16-inch Manatee County water main extending northward and it includes a short segment of 12-inch water main. Sharing emergency water here is hydraulically limited to less than 3 MGD. All three locations would require future improvements to pumping equipment and yard piping to allow for bi-directional water delivery from north to south, and south to north.

Additional details on flows and hydraulics can be found in Section 4.0.

2.0 ROUTE DEVELOPMENT PROCESS

2.1 Beginning and End Points

The start point for the route study is the end of the Phase 3B pipeline for which construction was finished in 2020. This end of the Phase 3B pipeline is 36 inches in diameter. Approximately 5,600 linear feet south of this end point a 48" x 42" tee was constructed presumably anticipating that the Phase 3C pipeline would start there. Both potential start points were considered. One point has a slight hydraulic advantage and the other has a closer location to the end point which results in less route length.

The original end point of the route was University Pump Station (Sarasota County Pump Station No. 1) located at the intersection of Lockwood Ridge Road and University Parkway. This location is where Manatee County currently supplies up to 5 MGD of water to Sarasota County through 2025. Existing distribution system piping in both Manatee and Sarasota Counties also make this a good location for connecting to and potentially providing emergency water to and from Manatee County. During the route development process, it was determined that another location at University Parkway and Lakewood Ranch Boulevard (Sarasota County Interconnect No. 2) was also a good location for potentially providing water to Manatee County and this location would result in a shorter route, however, it did not directly feed Sarasota County Pump Station No. 1 where the majority of the water is currently provided by Manatee County which may cease in 2025. After discussions with stakeholders from Sarasota and Manatee County as well as a review of hydraulic modeling results, satisfactory water supply can be achieved when The Phase 1 facilities come online combined with other Sarasota capital improvement projects designed to provide improved flows and pressures to the northwest area of the county.

2.2 Existing Utilities

Sarasota County and Manatee County interactive maps were used to identify major water main, reclaimed water main, gravity sewer, and force main pipelines along the potential route corridors. Utility congestion was considered especially due to the size of the future transmission water main. Lorraine Road, Blue Lake Road, Desoto Road, and Lakewood Ranch Road have significant existing utilities.

2.3 Data Review Summary

A desktop evaluation was performed using readily available public information that includes:

- Existing utility data from Sarasota County and Manatee County interactive maps.
- Right-of-way and parcel data from Sarasota County property appraiser interactive map.
- Aerial and street view data from Google Earth.
- Average Annual Daily Traffic (AADT) from Florida Department of Transportation's (FDOT) Open Data Hub application.

- Proximity to schools, county facilities, playgrounds, and health/medical facilities via Sarasota County Geographic Information System (GIS)
- Location of contaminated sites from Florida Department of Environmental Protection (FDEP) Contamination database.
- Location of cultural resources from the National Register of Historic Places courtesy of the National Park Service.

2.4 Field Reconnaissance

Field reconnaissance was performed along all accessible corridors under consideration for routing including. Clark Road (State Road 72), Lorraine Road, Dog Kennel Road, Palmer Boulevard, Desoto Road, Fruitville Road, Cow Pen Slough maintenance road between Clark Road and Bee Ridge Extension (aka Lorraine Road), Lockwood Ridge Road, Big Pine Road, 17th Street, Honore Avenue, Cattlemen Road, Tatum Road, Lakewood Ranch Boulevard, Delft Road and University Parkway. Less accessible corridors were reviewed on Google Earth or Sarasota County Property Appraisers mapping. These corridors included Utopia Road, Cow Pen Slough north of Delft Road, Hi Hat Ranch 500-foot wide buffer and cross country corridors on Hawkins property near the National Cemetery. Features of interest include evidence of other utilities, traffic, utility poles, drainage improvements, forested wetlands, large trees, staging areas for special crossings, construction activity, hydrology, and any other feature that would affect the suitability of the corridor for routing a 42 or 36 inch diameter pipeline. A few select photographs from Field Reconnaissance follow.



Looking west on Clark Road just east of Cow Pen Slough. Easement required along north right-of-way line.



View Along Cow Pen Slough just east of Lorraine Road.



View looking south along west side of Cow Pen Slough, the pole marks a 16-inch reclaimed water main.



Tee Box that would have to be crossed along Cow Pen Slough.



Looking North along Lorraine Road Just south of Bee Ridge Road



Looking northeast along Lorraine Road just north of Bee Ridge Road



Looking north along Lorraine Road just north of Fruitville Road. Wide right-of-way but opportunity exists for easement along east right-of-way line.



Looking west along University Parkway just west of Lorraine Road



Looking north along Lakewood Ranch Boulevard just north of Blue Lake Road.

2.5 Route Evaluation Considerations/Criteria

2.5.1 Pump Station and Associated Facilities Siting

In June 2021 the Authority and Sarasota County entered into an Interlocal Agreement for Authority acquisition of a pump station site that will serve both regional Phase 3C Transmission Main and local County needs. The Authority sought parcels within a 4,000 foot radius of the intersection of Fruitville Road and Lorraine Road. The first parcel accepted another offer before the team was able to perform due diligence. An offer was extended to the second parcel and the owner decided not to sell. A third site is being negotiated with the Hi Hat Ranch developer and is located approximately 2,800 feet south of Fruitville Road and 2,000 feet east of the proposed extension of Lorraine Road where all 3 shortlisted Phase 1 alternative routes converge. Appraisals, ecological assessments, and Phase 1 environmental assessments are underway. Site access still needs to be developed.

The site is proposed to contain a 26 MGD potable water pumping station with four horizontal split-case high service pumps and one spare. The site will also contain two 5 MG ground storage tanks, a sodium hypochlorite storage & feed system, backup generator, fuel storage tank, electrical building, and a minor administration building. Due to the proximity of the power transmission posts in the adjacent parcel, the site layout and yard piping have been designed to avoid any possible interference with the existing electrical infrastructure. See Figure 2-1.



Figure 2-1 – Proposed Pump Station and Facilities Site

2.5.2 Public Impact

To limit public inconvenience during construction, traffic congestion and lane closures were evaluated. The Florida Department of Transportation database was used to identify the Average Annual Daily Traffic (AADT) along each route alternative, see Table 2-1. AADT is the total volume of vehicle traffic in a year divided by 365 days and was used as an indicator of how highly trafficked a road is compared to others.

Table 2-1 Public Impact – Average Annual Daily Traffic

Route	Road Name	AADT
A1	SR 72 (Clark Rd)	6,200
	Lorraine Rd	3,600
B1	SR 72 (Clark Rd)	6,200
	Lorraine Rd	11,200
	Lorraine Rd	4,900
	Lorraine Rd	3,600
C1	SR 72 (Clark Rd)	6,200
	Lorraine Rd	4,400
	Lorraine Rd	11,200
	Lorraine Rd	4,900
	Lorraine Rd	3,600
A2	Lorraine Rd	3,600
	University Pkwy	20,500
B2	Lakewood Ranch Blvd	6,100
C2	Cattlemen Rd	11,000
	Longwood Run Blvd	3,900
	Desoto Rd	6,900
	Lockwood Ridge Rd	26,000
	University Pkwy	41,000

2.5.3 Safety

The greatest threat to worker and public safety is moving vehicles, largely gauged by construction proximity to traffic. Many of the routes follow roadways and roadways, by state definition, house utilities. This relationship is consistent with Long Range Planning. Fortunately, maintenance of traffic plans are well developed to maximize safety by utilizing state and municipal standards. Another threat includes other utilities; especially high voltage electrical transmission lines/towers and gas mains. Implementation of construction safety protocols is an emphasis of the Authority. Later in this

report rankings of alternative routes against the evaluation criterion “safety” will be identified. Alternative routes crossing or in parallel with high voltage corridors are ranked lower accordingly as are routes that include mostly road rights-of-ways with high average annual daily traffic counts as noted in Table 2-1 above.

2.5.4 Operation and Maintenance

Operation and maintenance is another alternative evaluation criterion. The ease and safety of future maintenance will be critical as the community develops and depends on reliable water supply. While appurtenances such as isolation valves, air release valves and surge control facilities like vacuum relief valves are easy to mark and find in road rights-of-ways, vehicular traffic can make accessing these facilities troublesome. However, appurtenances located along cross country portions of an alternative route maybe be easy to access, but more effort is required to mark with bollards to make finding them easier. Cathodic protection test stations are notorious for being struck by off road vehicles and mowers. Specific details for Operation and Maintenance considerations of the pipeline, appurtenances and pumping station will be addressed during final design.

2.5.5 Consistency with Long Range Planning

In general, routing within or adjacent and parallel to established utility corridors is the definition of consistency with long range planning. Routing cross country and creating new corridors is typically not, but there are exceptions when the corridors are shared with the needs of other users and are properly aligned to avoid environmental features or conflicts with planned developments and zoning. One of the Phase 1 alternative routes utilizes the maintenance access dirt road along Cow Pen Slough, a man-made channel for regional drainage. This high and dry corridor already includes another pipeline 16 inches in diameter conveying reclaimed water. Conversely, another one of the Phase 1 alternative routes utilizes a 500 foot-wide buffer between existing development and the proposed Hi Hat Ranch development. This corridor contains significant pristine habitats including mesic hammock, forested and herbaceous wetlands and even habitat critical to the endangered species scrub jay.

2.5.6 Environmental and Permitting

Most of the alternative routes for both phases follow existing rights-of-way and only a few locations parallel said rights-of-way in adjacent easements. Sarasota County protects and regulates upland impacts when they include mesic hammock. Local, state and federal regulations all protect and regulate wetland impacts. Permitting impacts to forested wetlands is particularly difficult and expensive including mitigation requirements of creating areas of new quality replacement wetlands. Regulatory guidelines include factors that are typically in the range of a 3:1 mitigation to impact ratio. For example, one acre of forested wetland impacts might require three acres of uplands to be converted to wetlands and then monitored for 10 years to assure success. Fortunately, only one alternative route includes such large scale impacts. Other routes have small intermittent impacts often below thresholds allowing a more routine permitting process.

2.5.7 Land Requirements

Of the three Phase 1 shortlisted alternative routes, only two require easements. Approximately 61% of Alternative Route A1 is on proposed easements. Alternative Route B1 is approximately 21% on proposed easements, however, most of the proposed easements are on land that appears to already be encumbered by maintenance easements for maintenance of Cow Pen Slough, a manmade drainage canal/channel. This study does not include title searches to confirm this apparent encumbrance, but even if officially recorded easements are not discovered, it could be argued to be maintained right-of-way. Final design along Cow Pen Slough would require title searches and land survey to identify and locate current encumbrances including some Sarasota easements acquired for their reclaimed water main. A single easement is required of Phase 2 Alternative Route C2, but this is the least favorable alternative route. Table 2-2 shows a summary of easements required for all alternative routes.

Table 2-2 Property Acquisition

Route	Route Length (miles)	Length of Easement (miles)	Percent of Route in Private Easement	Number of Easements
A1	10.25	6.28	61.3%	16
B1	8.66	1.83	21.1%	5
C1	8.75	0	0%	0
A2	4.13	0	0%	0
B2	4.84	0	0%	0
C2	9.47	0.07	0.7%	2

2.5.8 Impacts to Cultural Resources

Cultural resources include landscapes, structures, and archaeological sites that represent a culture or society. Florida has nearly 1,800 sites on the National Register of Historic Places and National Historic Landmarks list, 99 of which are in Sarasota County. These culturally significant sites should be protected and thus are a determining factor in route selection. The Florida Department of State Historical Resources database was reviewed, and it was determined that there are no historical sites along any of the route alternatives. However, it is a best practice to include language in contract documents to ensure that any artifacts/items which are discovered during construction are protected accordingly.

2.6 ALTERNATIVE ROUTES

As discussed, the project was split into two phases, Phase 1 and Phase 2 following the Notice to Proceed for WO No. 1. Phase 1 is the higher priority with the most urgent need for Sarasota County. Per direction from the Authority a recommended route is required only for Phase 1 and shortlisted routes are required for Phase 2.

With the beginning and end points being generally defined, the next step in development of alternative routes is to define the study area. This area is usually bound by man-made or natural boundaries that if crossed with a route would result in unnecessary costs or length. Such a boundary could be a river, an Interstate Highway, or a governmental delineation. For this project Figure 2-2 shows the route study area.

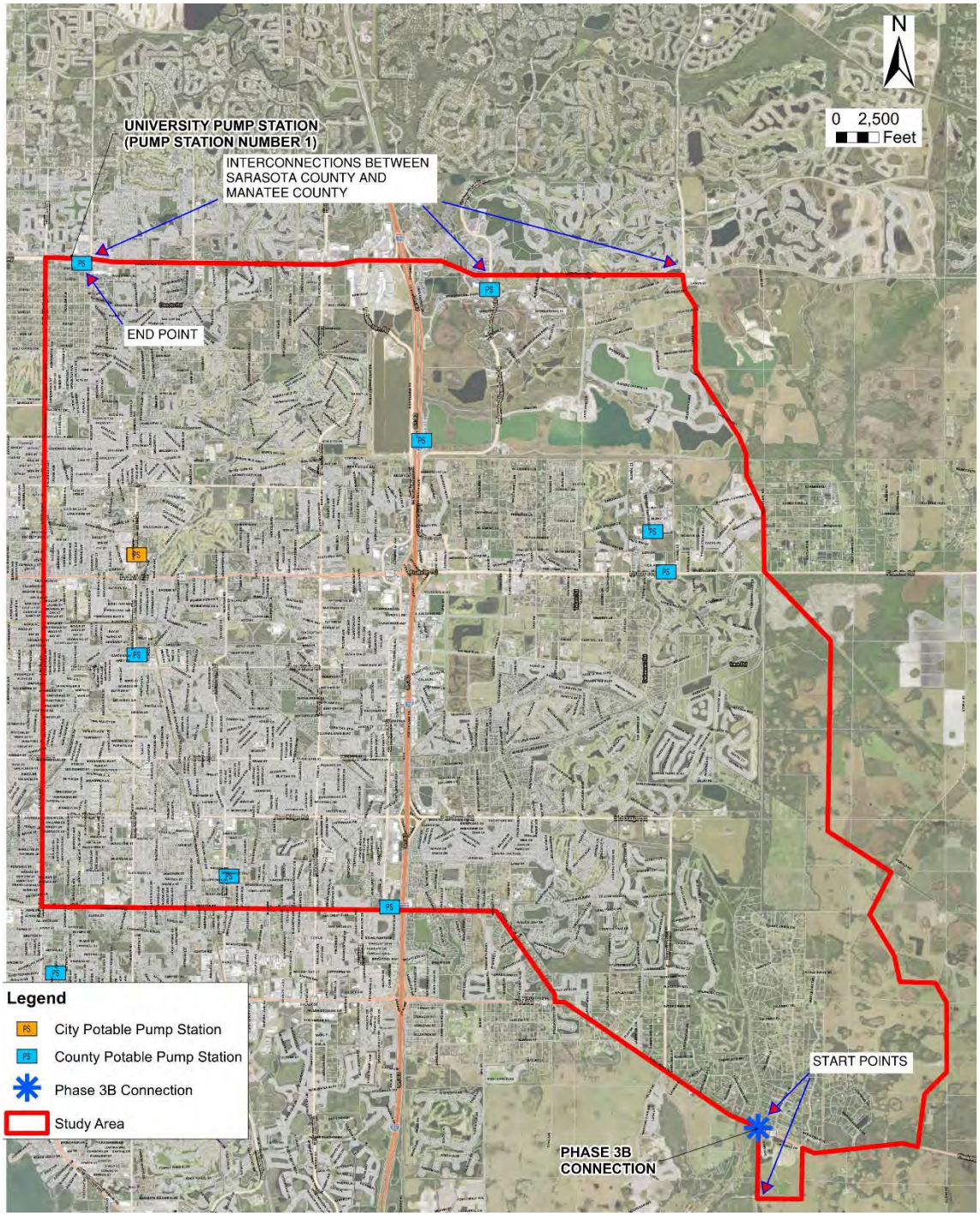


Figure 2-2 – Route Study Area

The next step is a wide open approach to identify every potential route corridor through the study area. Early on in this process, the routes had not been separated into Phase 1 and Phase 2 segments. Figure 2-3 shown all potential alternative routes that were identified.

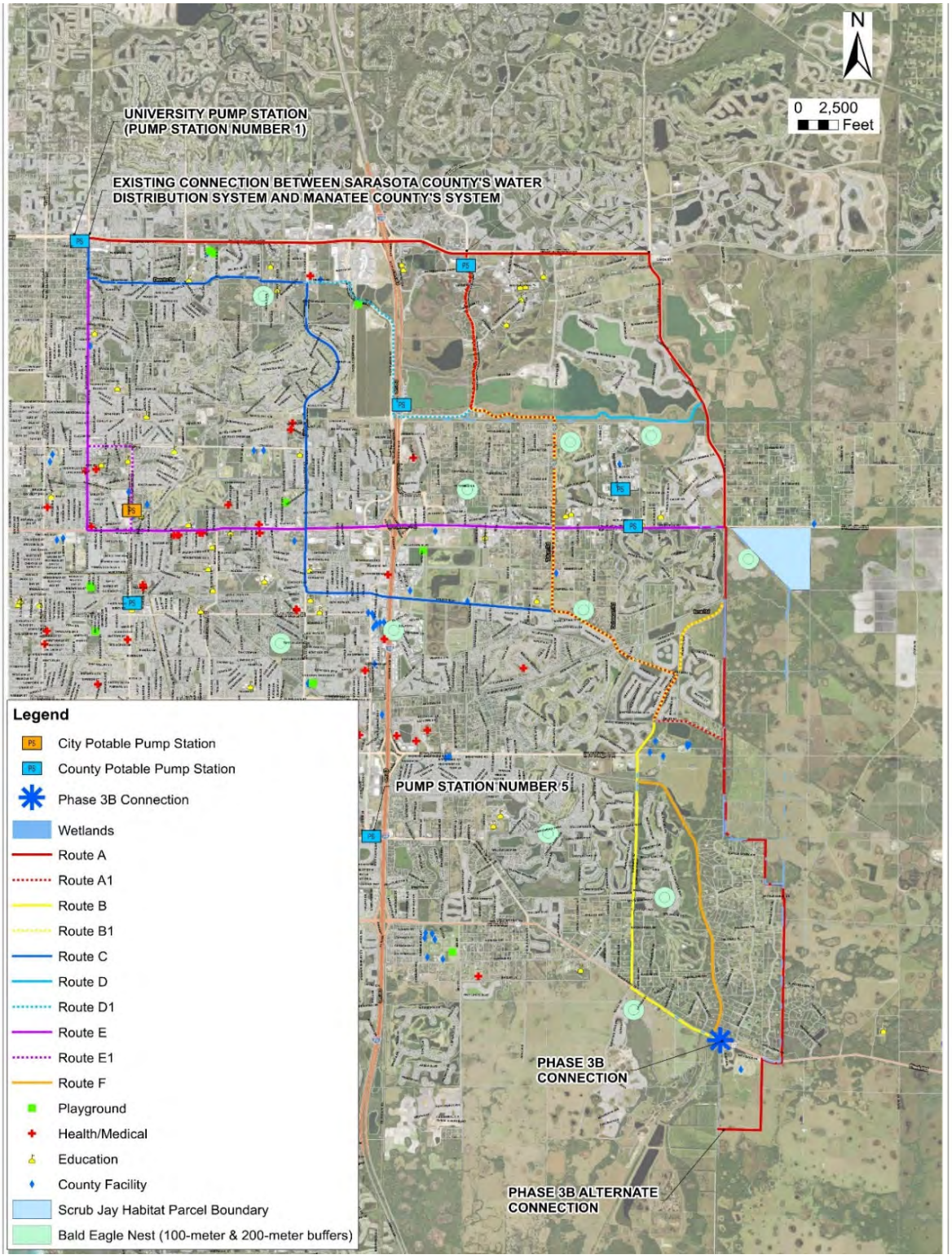


Figure 2-3 – Potential Routes Identified

The potential routes are pared down by eliminating routes with perceived fatal flaws and eliminating routes that are clearly inferior to another route. An example of a fatal flaw included routes within the

Florida Power and Light (FP&L) high voltage transmission corridor. Meetings early in the route selection process with FP&L revealed strong objection by FP&L staff to the co-location of the 3C TM within the FP&L corridor and enforcing eminent domain is not an option for the acquisition of an FP&L easement. Eventually the best routes emerge, and the shortlisted routes are defined. A version of the shortlisted routes was presented to the Authority Board on February 2, 2022. A minor change was made subsequent to that presentation to include an additional optional segment in Clark Road and Lorraine Road. This segment had been left out of the presentation because of challenges routing the pipe along Clark Road, State Road 72. Sarasota County recently acquired easements along the south right-of-way line, and it was assigned and filled up with various utilities. Acquiring easements along the north side was also not favorable due to numerous residential parcels often with forested wetlands. Routing within State Road 72 would subject the Authority to future costs and burden of replacing or relocating their pipeline should the FDOT decide to upgrade the roadway and opine that the pipeline was in conflict. This last unfavorable characteristic was weighed against the potential unfavorable characteristic on an alternative route utilizing Cow Pen Slough corridor which could be slower to implement due to potential environmental permitting and property acquisition. The shortlisted Routes are shown on Figure 2-4. This figure does recognize the implementation of Phase 1 and Phase 2 for the Phase 3C Feasibility and Routing Study.

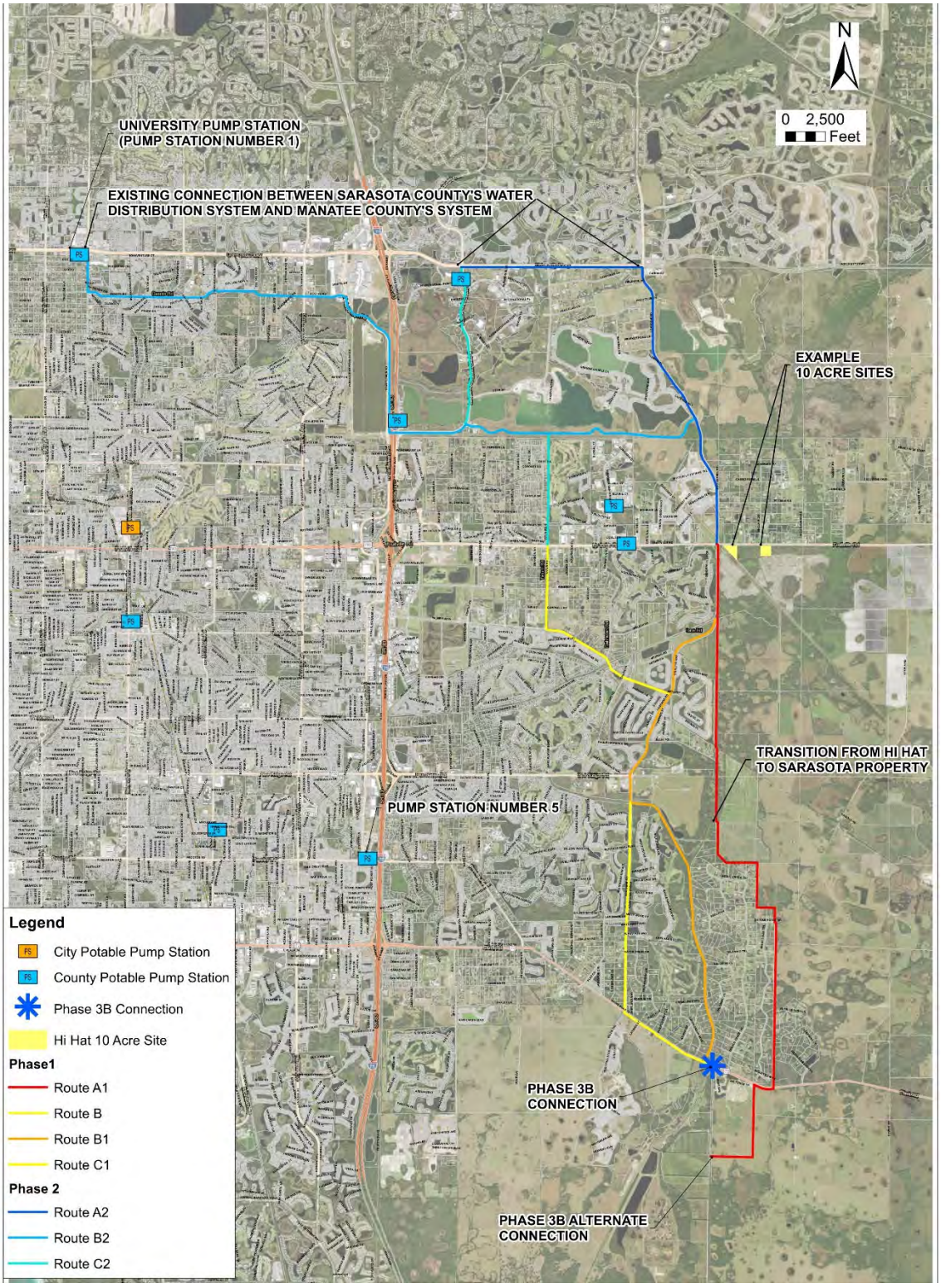


Figure 2-4 – Shortlisted Routes

Now that the shortlisted routes have been identified, the detailed evaluation of each proceeds. Specific details of each route are documented such as overall length, extents of special crossings, lengths along traffic, surface restoration requirements, estimated wetland impacts delineated into forested and herbaceous, mesic hammock impacts, easements required (both in number and area), and permitting requirements. One of the tools used to arrive at these metrics are the one inch equals 100 feet scale conceptual plans which can be found in Appendix A.

2.6.1 Phase 1 Alternative Route A1

This route commences at the 48" x 42" tee constructed under Phase 3B located approximately 5,600 feet south of Clark Road and proceeds easterly along the southern border of the National Cemetery in an easement on private land owned by the Hawkins trust. This land is currently in agricultural use. This easement continues turning northward along the eastern boundary of the National cemetery until just before it reaches the right-of-way line of Clark Road where it turns easterly parallel to Clark Road and still with the proposed easement. Right after it crosses the FP&L high voltage transmission corridor, the route turns northward across Clark Road and onto a series of approximately 10 easements from community property of The Forest at Hi Hat Ranch development and individual residential properties. North of this community the route would enter Hi Hat Ranch proper which is designated for development. The route continues in the proposed easement north until reaching a point where it turns westerly across the FP&L corridor and into a 500 foot-wide buffer around the proposed Hi Hat Ranch development. The route still in proposed easement continues west and then north within the buffer about 3,000 feet where it jogs to the west and enters a series of Sarasota County rights-of-way and easements associated with a branch of Cow Pen Slough until it reaches Fruitville Road and terminates.

2.6.2 Phase 1 Alternative Route B1

This route commences at the north end of the Phase 3B pipeline and crosses Clark Road (SR 72) right-of-way to a proposed easement on a residential property where the route turns westerly in the easement adjacent to Clark Road right-of-way until it reached Cow Pen Slough right-of-way. The route continues westerly across the slough to the west side into an unmaintained maintenance road for Cow Pen Slough running north. The route follows this corridor north for approximately 4,300 linear feet where the route enters a proposed easement on property owned by Gator Creek Golf Club, Inc. The route continues northward along the Cow Pen Slough maintenance road another approximate 2,700 linear feet before entering back into Cow Pen Slough right-of-way for approximately 5,100 before entering another proposed easement on property owned by The Preserve at Misty Creek Homeowners Association, Inc. This easement also follows the Cow Pen Slough maintenance road northward and then northwesterly approximately 6,300 linear feet before entering Lorraine Road right-of-way and turning northward. In Lorraine Road right-of-way the route crosses Bee Ridge Road and Palmer Boulevard and enters the currently unimproved right -of-way of Iona Road/Lorraine Road extension which is under design by Sarasota County. The route follows this proposed roadway until reaching Fruitville Road, the route's terminus.

2.6.3 Phase 1 Alternative Route C1

This route also commences at the northern end of the Phase 3B pipeline and heads northerly where it crosses into the State Road right-of-way of Clark Road (S.R. 72). Within the State Road right-of-way, the route heads westerly approximately 6,400 linear feet to Lorraine Road where it turns northward within the right-of-way of Lorraine Road for approximately 13,200 linear feet to the intersection of Lorraine Road and a branch of Cow Pen Slough. From this point to the terminus of the route, this alternative is identical to Alternative Route B1. Previously a leg of route C1 turned westerly in Palmer Boulevard to Tatum Road where it headed northward, however, Sarasota County advised that this area was too far west for the proposed point of connection and too far west for the proposed cooperative use of the proposed pumping station and storage facility site. Hence this western leg of alternative Route C1 was eliminated from further evaluation.

2.6.4 Phase 2 Alternative Route A2

This route commences at the intersection of Fruitville Road and Lorraine Road and heads north in Lorraine Road. Alternatively, a corridor of easements could be acquired along the east side of the right-of-way. There are some retention ponds that would require rather narrow easements approximately 25 feet wide. The route follows Lorraine Road north to University Parkway thence turns west in University Parkway right-of-way along the southern boundary to Lakewood Ranch Boulevard where the route terminates at a proposed point of connection to Manatee County's water distribution system. This location is also a current interconnection between Sarasota and Manatee County (PS No. 3).

2.6.5 Phase 2 Alternative Route B2

This route commences at the intersection of Fruitville Road and Lorraine Road and heads north in Lorraine Road to a point approximately 1,350 feet short of Blue Lake Road where the route intersects a Sarasota County utility easement running east-west. The route turns west here and follows the utility easement to Lakewood Ranch Boulevard. Alternatively, this east-west leg could be located in Blue Lake Road. At Lakewood Ranch Boulevard the route turns north to University Parkway at a proposed point of connection to Manatee County's water distribution system. This location is also a current interconnection between Sarasota and Manatee County (PS No. 3).

2.6.6 Phase 2 Alternative Route C2

This route follows Alternative Route B2 to Lakewood Ranch Boulevard, but instead of turning northward, this route continues westerly and across Interstate 75 to Cattlemen Road; thence north in Cattlemen Road to its intersection with DeSoto Road near University Town Center Mall. Here the route turns west in DeSoto Road to the end of the pavement where it enters a portion of unimproved right-of-way until the route reaches Longwood Run Boulevard which quickly becomes DeSoto Road again. The route follows DeSoto Road to Lockwood Ridge Road where it turns north in Lockwood Ridge Road to its intersection with University Parkway at a proposed point of connection to Manatee County's water distribution system. This location is also a current interconnection between Sarasota

and Manatee County at PS No. 1. Due to the additional cost and length of this alternative route and its limited additional benefits, this route is the least favorable Phase 2 alternative route.

3.0 ROUTE SELECTION PROCESS

3.1 Evaluation Criteria and Weighting

Construction techniques, project location, and existing conditions all have impacts on the outcome of a project. The first step in developing a route selection protocol is to determine which aspects of the overall project to evaluate. The different aspects that effect a projects outcome are termed criteria, and the criteria can be compared against one another. A participant in the process compares one criterion versus another to determine which is more important to this individual in order to determine weighting criteria. For this project, the criteria weighting was a collaborative effort involving Authority staff, consultant staff for this project and consultant staff for another pipeline project which is being implemented simultaneously. On November 9th, 2021, forms were collected from all who participated, and the results were determined. The weighting process showed that the "Operation and Maintenance Considerations" criterion ranked highest in terms of "Weighting Factor" and "Public Impacts" ranked lowest. These results are understandable because the Authority wants low maintenance and with a pipeline of this magnitude public impact is inevitable but is limited in the rural nature of the route and can be further limited by certain construction techniques. The results of this weighting task is as shown in **Table 3-1**. The criteria are identified on the left side of the table as well as the weighting factor for each criterion. The impact(s) of the criteria on the overall project are identified on the right.

Table 3-1 Non-Cost Identifiable Route Evaluation Criteria	
Criteria and Weighting Factors	Impacts
Constructability – 15%	• Pipeline length • Geotechnical considerations • Right-of-way/easement availability • Proximity to overhead power lines • Pipe corridor infrastructure congestion • Trenchless installations
Public Impacts – 5%	• Maintenance of traffic • Traffic congestion and lane closures • Public inconvenience during construction • Coordination with traffic agencies
Safety – 15%	• Construction crew and pedestrian safety • Emergency services impacted • Comparative accessibility for future operation and maintenance
Operation and Maintenance Considerations – 20%	• Ease of operation of future appurtenances and future maintenance access/egress • Impact on critical access or evacuation corridors • Number of valves and air release valves required • O&M based on pipeline length and number of water crossings or large intersection crossings
Consistency with Long Range Planning – 15%	• Consistency and adaptability of route with local/regional planning documents • Regional water supply and resiliency goals • Planned regional infrastructure improvements • Consistency with regional comprehensive plans • Consistency with approved planning for future development
Environmental and Permitting Complexities – 10%	• With respect to obtaining appropriate permits for construction and operation • Ability to minimize environmental impact • Excavated soil contamination

Criteria and Weighting Factors	Impacts
	• Permitting • Wetland impacts • Critical habitat or endangered species • Environmental considerations for wetland crossing alternatives • Environmental considerations for dewatering
Land Requirements – 10%	• Easements • Right-of-way and easement availability • Permitting complexities at wetland crossings • Siting opportunities for meters, booster pumping and storage • Property acquisition
Impacts to Cultural Resources – 10%	• Known historical and archeological sites from public data bases

3.2 Ranking the Routes Against the Evaluation Criteria

The next step of the process is to rank each route based on the criteria. Where each participant ranks the characteristics and metrics of each route versus each criterion. The routes are listed in a row across the top of the table and the criteria are listed in the left column. The participant considers each criterion, how the route impacts each criterion, and ranks the relationship from 1 to 5 with 5 being the best. For this project, three experienced pipeline engineers ranked the routes collaboratively. A summary table of the ranking is attached as Table 3-2. This table includes the weighting factors for each criteria and sums the product of the criterion rank times the weighting factors to provide a highest ranked route.

Table 3-2 Route Ranking Summary

Evaluation Criteria	Avg Weighting Factor	Route A1 Rank	Route A1 Score	Route B1 Rank	Route B1 Score	Route C1 Rank	Route C1 Score
1-Constructability	**20.00%**	3.00	0.600	4.00	0.800	4.00	0.800
2-Public Impacts	**5.00%**	5.00	0.250	4.00	0.200	3.00	0.150
3-Safety	**10.00%**	2.00	0.200	4.00	0.400	3.00	0.300
4-Operations & Maintenance	**20.00%**	2.00	0.400	4.00	0.800	3.00	0.600
5-Consistency with Long Range Planning	**20.00%**	2.00	0.400	4.00	0.800	3.00	0.600
6-Environmental and Permitting	**10.00%**	2.00	0.200	4.00	0.400	5.00	0.500
7-Land Requirement	**10.00%**	1.00	0.100	3.00	0.300	5.00	0.500
8-Impacts to Cultural Resources	**5.00%**	5.00	0.250	5.00	0.250	5.00	0.250
Totals	**100%**		**2.400**		**3.950**		**3.700**

Rank - Scale of 1 to 5, with 5 being the best

The best route from a non-cost criteria evaluation is the route with the highest score. Please note the comparative cost of each route is considered independently from the non-cost evaluation. The selected route may not be the highest rated route and likewise, the selected route may not be the least expensive.

3.3 Comparative Costs and Selected Alternative

Estimated comparative costs were prepared and are included in Appendix B. A summary of the Non-Cost Identifiable Criteria rankings for each route and the comparable cost for each Phase 1 Alternative Route are summarized in Table 3-3.

Table 3-3 Alternative Route Comparative Cost and Non-Cost Criteria Ranking

Alternative Route	Comparative Cost	Non-Cost Criteria Ranking
Phase 1 Route A1	$32,469,300	2.40
Phase 1 Route B1	$22,411,900	3.95
Phase 1 Route C1	$22,743,000	3.70
Phase 2 Route A2	$13,974,000	Not ranked
Phase 2 Route B2	$18,227,000	Not ranked
Phase 2 Route C2	$29,100,000	Not ranked

3.4 Recommended Phase 1 Route Alternative

Alternative Route B1 is recommended for implementation. This route is based on a 42-inch diameter transmission main. The first segment connects Phase 3B to the new pumping station and facilities site. The second segment connects the pump station to the proposed Sarasota County point of connection (POC) north side of Fruitville Road in Lorraine Road right-of-way. Optionally the Sarasota County POC could be moved farther north to a point approximately 1.25 miles north near the intersection of Lorraine and Blue Lake Rd based on County preference. The unique characteristic of this alternative route is it use of the Cow Pen Slough drainage canal/channel corridor for

approximately 3.5 miles. Along this segment there is only one utility to our knowledge, a 16-inch reclaimed water main. As can be seen in the second, third and fourth photographs in section 2.4 headed Field Reconnaissance, there is also no pavement. Pipe installation here is efficient and less expensive than laying pipe in road rights-of-way where many utilities may exist, traffic must be maintained, and pavement must be restored. For this entire alternative route, only five easements are required; one from a private residential property adjacent to Clark Road, and the rest from two separate residential golfing community association properties that are apparently already encumbered by the Cow Pen Slough maintained right-of-way or officially recorded right-of-way. The rest of the route is in FDOT right-of-way (crossing), Sarasota County right-of-way or Sarasota County easements. The recommended route also includes a microtunnel crossing beneath Cow Pen Slough and trenchless crossings of Clark Road (S.R. 72), Bee Ridge Road (roundabout) and Fruitville Road (S.R. 780). Jacking and augering (aka jack and bore) may be the most cost effective way to accomplish these trenchless crossings.

3.5 Additional Phase 2 Route Discussion

Phase 2 of the 3C route will complete the final segment of regional transmission main to Manatee County's system. Manatee County currently does not project a need for regional water from the Authority until 2037. As such, this segment of TM is scheduled for a later date yet to be determined. However, installation of this segment to provide an emergency connection between the region's two largest water distribution systems for increased resiliency will provide the ability to transfer water during drought, emergencies and planned maintenance outages for the Authority and Members. Until such time that Manatee County begins purchases of water from the Authority, it is recommended to implement a no-cost water "exchange" to routinely deliver flow to Manatee County at a proposed POC located at the intersection of Lakewood Ranch Boulevard and University Parkway and conversely Manatee County will supply an equal flow to Sarasota County at the existing interconnection between the two counties at University Pump Station (Sarasota County PS No. 1) located at Lockwood Ridge Road and University Parkway. It is recommended the Authority further evaluate the need to construct a pipeline directly to this same pumping station. Hydraulic modeling indicates that the Phase 1 facilities and other Sarasota County capital improvement projects will be sufficient to provide ample service after Manatee County ceases delivery of up to 5MGD of supply in accordance with the expiring agreement in 2025. It is suggested the Phase 2 pipeline be 36 inches in diameter and extend between the POC to Sarasota County and the POC to Manatee County.

If additional emergency water supply is required by Manatee County, Sarasota County may be able to provide such at the existing interconnects located at the intersection of Lorraine Road and University Parkway or at Sarasota County Pump Station No. 1.

4.0 PIPELINE DESIGN CRITERIA

4.1 Pipeline Size and Pressures

4.1.1 Hydraulic Modeling Scenarios

The regional hydraulic model developed for the Authority by HDR, Inc. was used as a starting point to define the hydraulic delivery characteristics (available flows and pressures) at the point of commencement for the Phase 3C project. In addition to incorporating the Phase 3C and Phase 3C extension pipelines and pump station, the model's topology for the 2040 scenarios was updated to include additional active water mains and junctions from the Sarasota/Manatee joint county water model, as provided by Carollo Engineers.

The overall demands at the POCs described above, and the minimum pressures required at each, limited the pipe diameters explored in the hydraulic investigation as follows:

- Phase 3C – evaluated as both 42-inch and 48-inch
- Phase 3C Extension –
    - 42-inch from Fruitville Pump Station to intersection of Fruitville Road and Lorraine Road, where a 24-inch pipe branches off to connect with Sarasota County's distribution system;
    - 36-inch from the Lorraine Rd POC with Sarasota County to the POC with Manatee County at Lakewood Ranch Blvd at University Parkway;
    - 36-inch from Lakewood Ranch Boulevard to Sarasota County's University Pump Station No. 1. Note that, as described above, this section of the Phase 3C Extension is deemed not favorable in the route evaluation but is included for comparison in the hydraulic investigation.

Scenarios evaluated include the following:

- 2025 Max Day – In this scenario, Manatee County is no longer providing water to Sarasota County at the University Pump Station. The Authority's Phase 3C transmission main and Fruitville pump station are in service, delivering water to the new Sarasota County POC near Fruitville Road and Larraine Road.
- 2040 Max Day, normal conditions – In this scenario, the Authority's Phase 3C transmission main, the Pump Station and the 3C extension to the new Manatee County POC at Lakewood Ranch Boulevard and University Parkway are in service. As explained later in this analysis, in order to promote water movement through the Phase 3C extension during normal conditions for optimal water age, additional water is provided to Manatee County at the Lakewood Ranch POC and traded back to Sarasota County at the University Pump Station No. 1.
- 2040 Max Day, emergency conditions – Lake Manatee Water Treatment Plant is completely offline requiring supply from the Authority. The Phase 3C transmission main and new Fruitville pump station are both in service, and the Phase 3C extension is in service providing flow to both

the University Pump Station and Lakewood Ranch Boulevard POCs. Normal Sarasota County Max Day demands are still active during this scenario. An additional sub-scenario was evaluated in which emergency flows are provided solely through the Lakewood Ranch Blvd POC.

Note that minor adjustment of output pressure of the new Fruitville Pump Station could have significant impacts on the available capacity of the system to deliver flows to the further delivery points but was maintained at a constant 75 psi in all scenarios for comparison purposes.

4.1.2 Demands

In addition to the demand information included in the original regional model, Sarasota County also provided the following flow and pressure information for the Authority delivery points within the County. A max day peaking factor of 1.3 was also provided by the County.

Table 4-1: Peace River Delivery Out of Carlton WTP

Delivery Point	2025 Max Day (MGD)	2040 Max Day (MGD)	Minimum Static Delivery Pressure (psi)
Carlton High Service Pump Station	2.569	3.0	N/A (from onsite GST)
Preymore Meter Station (aka 681)	11.315	3.0	60.0
Clark Road	7.2	14.6	75.0
Fruitville Road	0.0 (6.0[2])	6.0	75.0
Total (to be delivered to Carlton GST's)	21.084 (27.084[2])	26.6	

[1] Note that the delivery pressures listed for Clarke Rd and Fruitville Rd in the table above are understood to be the delivery pressures into the distribution system *after* being repumped by Sarasota County's existing Pump Station No. 5 and the Authority's new Fruitville Regional Pump Station, respectively. Minimum delivery pressures into the storage tanks at both pump stations is maintained above 20 psi in the model.

[2] Sarasota County indicated a "zero" flow requirement for the 2025 condition, but it is understood that the County and Authority's intent would be to provide their 2040 flow upon completion of the Phase 3C project (as simulated by the 2025 Max Day Scenario), at which time flows to other delivery points could be reduced accordingly. However, for the purposes of the model, the 6.0 MGD flow was included in both the 2025 and 2040 scenarios at Fruitville Road, with all other demands input into the model as originally provided by Sarasota County.

4.1.3 Hydraulic Model Results

The Sarasota County portion of the regional model was simplified to only include the Authority's transmission mains and facilities, with demands placed at the delivery points according to the flows listed in **Error! Reference source not found.** and Table 4-1.

For the 2025 Max Day Scenario, it was assumed that Phase 3C will be in place up to the Fruitville Road POC, but the Phase 3C Extension from Fruitville Road to Manatee County would not yet be active. Scenarios were run with the Phase 3C transmission main as a 42-inch pipe and a 48-inch pipe.

Table 4-2: 2025 Max Day Scenario Results, Phase 3C as 42-inch Pipe

Delivery Point	2025 Max Day Flow (MGD)	Minimum Delivery Pressure (psi)
Preymore Meter Station (aka 681)	11.32	49
Clark Road	7.2	45 at meter assembly 33 at PS 5
Fruitville Road	6.0	39 into tank

Table 4-3: 2025 Max Day Scenario Results, Phase 3C as 48-inch Pipe

Delivery Point	2025 Max Day Flow (MGD)	Minimum Delivery Pressure (psi)
Preymore Meter Station (aka 681)	11.32	49
Clark Road	7.2	45 at meter assembly 33 at PS 5
Fruitville Road	6.0	40 into tank

As shown in the results above, during the 2025 scenarios, increasing the pipe size does not make a significant different in the system pressures at the Fruitville Pump Station delivery point. Note that the pressures listed in the table above at Fruitville Road are immediately upstream of the Fruitville Pump Station ground storage tank, and that flows will be re-pressurized to 75 psi minimum before being delivered to Sarasota County's distribution system.

For the 2040 scenarios, simulations were run considering both normal and emergency delivery conditions. Emergency conditions assumed that Manatee County's Lake Manatee WTP was

completely out of service. The normal and emergency conditions were each evaluated using both 42 and 48-inch pipe for Phase 3C.

Under normal delivery conditions, it was found that Manatee County's demands do not draw a significant amount of flow from the regional system. As shown in the tables below, due to the low velocities within the system under 2040 max day normal delivery conditions, increasing the size of the Phase 3C pipeline does not provide a significant difference in delivery pressures over that of a 42-inch pipe. Water received by Manatee County at Lakewood Ranch Boulevard is returned to Sarasota County at PS 1 so the Counties can maintain a "net-zero" metering.

Table 4-4: 2040 Max Day Normal Delivery Scenario Results, Phase 3C as 42-inch Pipe

Delivery Point	2040 Max Day Flow (MGD) Normal Conditions	Minimum Delivery Pressure (psi)
Preymore Meter Station (aka 681)	3.00	66
Clark Road	14.6	54 at meter assembly 22 at PS 5
Fruitville Road (into tank)	11.0	47
Fruitville Road (into Sarasota County distribution)	6	72
Lakewood Ranch Blvd	1.67	71

Table 4-5: 2040 Max Day Normal Delivery Scenario Results, Phase 3C as 48-inch Pipe

Delivery Point	2040 Max Day Flow (MGD) Normal Conditions	Minimum Delivery Pressure (psi)
Preymore Meter Station (aka 681)	3.00	66
Clark Road	14.6	54 at meter assembly 24 at PS 5
Fruitville Road (into tank)	11.0	49
Fruitville Road (into Sarasota County distribution)	6	72
Lakewood Ranch Blvd	1.67	71

During the emergency scenarios, in order to determine the maximum amount of flow that could potentially be delivered (based on the assumed 75-psi output pressure at the new Fruitville Pump Station used in the model), the delivery points at Manatee County were modeled as reservoirs, with pressure sustaining valves immediately upstream. The delivery pressure at University Pump Station was set to 20 psi, and set to 40 psi at Lakewood Ranch Blvd. The flows and pressures achieved in these scenarios are reflected in Tables 4-6 and 4-7 below, based on a 42-inch and 48-inch transmission main for Phase 3C, respectively. Results of the sub-scenario in which the section of the Phase 3C Extension between Lakeshore Ranch Blvd and University Pump Station No. 1 is eliminated, with all flow to Manatee County being provided at the Lakewood Ranch Blvd POC, is reflected in Table 4-8.

Table 4-6: 2040 Max Day Emergency Delivery Scenario Results, Phase 3C as 42-inch Pipe

Delivery Point	2040 Max Day Flow (MGD) Emergency Conditions	Minimum Delivery Pressure (psi)
Preymore Meter Station (aka 681)	3.00	56
Clark Road	11.42	41 at meter assembly 20 at PS 5
Fruitville Road (into tank)	21.76	20
Fruitville Road (into Sarasota County distribution)	6	72
Lakewood Ranch Boulvard (PSV = 40 psi)	2.33	40
University Pump Station (into tank)	17.63	20

Table 4-7: 2040 Max Day Emergency Delivery Scenario Results, Phase 3C as 48-inch Pipe

Delivery Point	2040 Max Day Flow (MGD) Emergency Conditions	Minimum Delivery Pressure (psi)
Preymore Meter Station (aka 681)	3	53
Clark Road	9.63	36 at meter assembly 20 at PS 5
Fruitville Road (into tank)	25.89	20
Fruitville Road (into Sarasota County distribution)	6	72
Lakewood Ranch Boulvard (PSV = 50 psi)	2.94	40
University Pump Station (into tank)	17.72	20

Table 4-8: 2040 Max Day Emergency Delivery (Sub)Scenario Results, Phase 3C as 42-inch Pipe, Delivery to Manatee County only at Lakewood Ranch Boulevard

Delivery Point	2040 Max Day Flow (MGD) Emergency Conditions	Minimum Delivery Pressure (psi)
Preymore Meter Station (aka 681)	3	53
Clark Road	11.42	41 at meter assembly 20 at PS 5
Fruitville Road (into tank)	21.76	20
Fruitville Road (into Sarasota County distribution)	6	73
Lakewood Ranch Boulvard (PSV = 50 psi)	24.17	40

It was found that during emergency scenarios, when providing water to Manatee County is prioritized along with maintaining a minimum pressure of 20 psi at the re-pump storage tanks, Sarasota County's 14.6 MGD maximum day demand at the Clark Road delivery cannot be fully satisfied. The model predicts that 11.42 MGD can be delivered to PS 5 at 20 psi if the Phase 3C transmission main is constructed as a 42-inch, which does still fulfill the average day demand of 11.23 MGD. Increasing the Phase 3C main to 48-inch allows approximately 4 MGD of additional flow to be delivered to the tank at 20 psi at the Fruitville Road Regional Pump Station. This increase in flow results in a lower delivery pressure at the Clark Road meter station; therefore, in order to maintain the minimum system delivery pressure of 20 psi, flow to PS 5 reduces to 9.63 MGD.

Additionally, because the model results showed that delivery to both University Pump Station and Lakewood Ranch the regional system could provide approximately 27 MGD to Manatee County, an additional scenario was run to determine how much flow could be provided through the Lakewood Ranch POC alone. As shown in the tables above, it was possible to transmit over 24 MGD with a delivery pressure of 40 psi.

Based on the results of the various scenarios discussed above, it is recommended that the Phase 3C transmission main be constructed as a 42-inch main. Increasing the pipe size to 48-inches provides insignificant benefit for flows and pressures under normal conditions. Under emergency conditions, increasing the size of the main to 48-inch allows approximately 4 MGD of additional flow to be delivered into the Fruitville Pump Station. However, without also increasing the diameter of the Phase 3C Extension, it only allows an additional 0.7 MGD to be delivered to Manatee County, while

also decreasing the amount of flow that can be delivered to Sarasota County's PS 5 due to the increased head losses upstream of the Clark Road meter assembly.

4.2 Pipeline Bedding and Backfill Requirements

Proper pipe bedding and backfill requirements shall be presented to the contractor in accordance with industry standards and Authority specifications. Special crossings shall be created to provide the contractor with the proper installation techniques to protect the pipeline and restore the impacted vicinity to preconstruction conditions. The preconstruction conditions will need to be well documented prior to construction.

4.3 Thrust Restraint

The pressure required to move the water creates forces along the pipeline. To prevent movement at bends, fittings, and valves, thrust restraints shall be incorporated in the design of the pipe. Several conditions impact the thrust restraint design, some of which include:

- Depth of pipe from ground surface
- Soil classifications and conditions
- Total pipeline pressure
- Pipe diameter
- Pipe wall thickness
- Pipe weight
- Elevation of the groundwater table
- Angles and types of fittings

These conditions will dictate the restrained length of pipe required to counteract the generated resultant forces.

4.4 Pipeline Appurtenances

4.4.1 Line Valves

Installation of isolation valves can be beneficial in the event that the transmission water main needs to be shut down for bypass, repair, maintenance, or relocation. Recommended line valves are butterfly valves which are large, heavy, and can be expensive. Valve installations should be limited, however transmission line valve spacing is suggested to be no greater than 5,000 feet. Ideally, the chosen locations will be in open and accessible areas where operation of the valve will not impede traffic.

4.4.2 Air Release Valves

As water is agitated, gas and air can be mixed into the water. The air bubbles in water rise and can become trapped at the crown, or top, of the pipe. If there are high points in the pipe, the air will remain there and grow in volume over time. These high points typically occur when the pipeline must be designed to go underneath other utilities or conflicts. Air release valves are installed to

automatically release entrapped air and to protect the pipe. These systems require a routine maintenance program to ensure that they are working properly.

A design should limit the number of air release valves that will be installed on the proposed transmission water main. This will help reduce the cost and time required for maintenance.

4.5 Permit Requirements

Several permit applications will be required prior to construction. The following permitting agencies should be contacted during design.

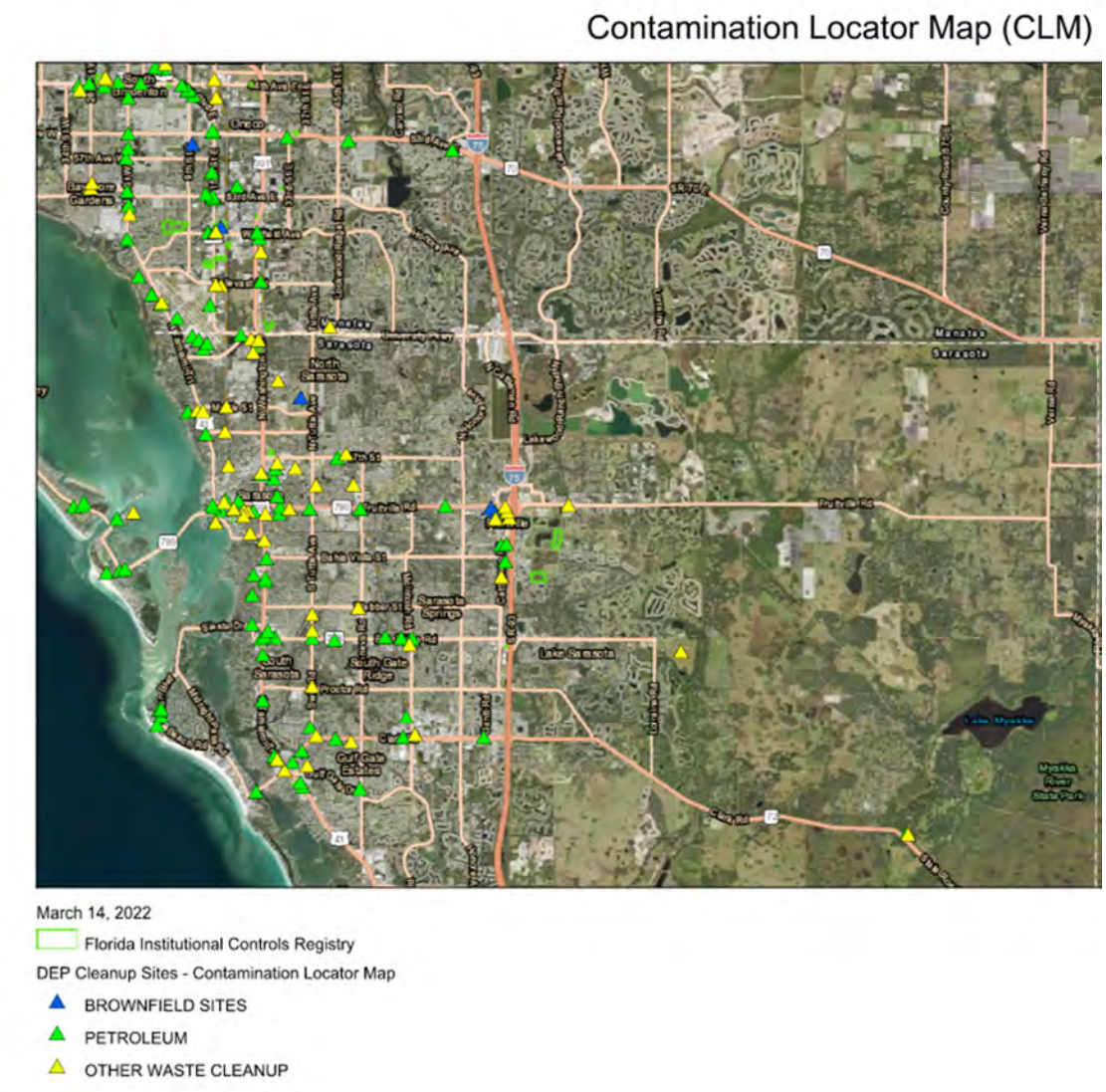
- Florida Department of Transportation
- Florida Department of Environmental Protection
- Sarasota County Right of Way
- United States Army Corps of Engineers
- Sarasota County DOH
- Florida Fish and Wildlife (FWC)

Once the project is in construction, the contractor will be required to obtain an NPDES permit, develop a surface water pollution prevention plan (SWPPP), and obtain maintenance of traffic approval.

4.6 Hazardous Waste Sites

The location of hazardous waste sites was determined using the Florida Department of Environmental Protection Contamination database. The FDEP database classifies cleanup sites by brownfield, superfund, petroleum, and other waste cleanup (i.e. dry cleaners). FDEP tracks contaminated site cleanup through Environmental Restoration Integrated Cleanup (ERIC). There are two cleanup sites that fall within 1,000 feet of the route alternatives and are identified Figure 4-1.

Figure 4-1 – Contamination Locator Map (CLM)



1. Sarasota County Bee Ridge Class LF1 (ERIC_8572)
   The Sarasota County Bee Ridge Class LF1 site is located at 8350 Bee Ridge Road. This cleanup site is deemed an Other Waste Cleanup site and was an operational landfill from 1971 to 1998. In 1984 the EPA performed assessments and found that the Bee Ridge landfill was deemed to have ground and surface water contamination due to offsite leaching. The property is now used as a community park and squadron. Phase 1 routes A1, B1, and C1 run adjacent to the cleanup site.

2. Touch of Class Cleaners (ERIC_4897)
   The Touch of Class Cleaners is located at 8420 Lockwood Ridge Road. This cleanup site is deemed an Other Waste Cleanup site and was a dry cleaner. FDEP conducted an assessment in 1996 and found high levels tetrachloroethene. In 1997 the site became part of the Drycleaning

Solvent Cleanup Program. Ongoing site assessments lead to a 2021 recommendation for long term monitoring. The property has been Heinrich's German Grill since 2008. Connection to the University Pump Station, part of Phase 2 route C2, falls within 1,000 feet of the contaminated site.

4.7 Pipe Installation Methodology

The pipeline will be constructed via open cut trench installation except at crossings that do not facilitate road closures or pavement destruction, and areas that may be environmentally sensitive. Within the shortlisted routes there are sections that will require installation by trenchless methods. It is proposed that trenchless installation will be done by horizontal directional drill or microtunnel.

4.7.1 Open-Cut Trench Installation

Open-cut trench installation is destructive to the existing ground surface over the pipe. When installing through existing pavement, the contractor will use a saw or an excavator to demolish existing pavement and prepare a trench for installation of the pipe. The depth of the trench will be determined by the pipe's designed depth and the contract plans. The limit of trench width is determined by trench depth, type of soil, and the contractor's decision to either slope the trench walls, use trench safety boxes, or to provide sheeting and shoring. In order to maintain open trench safety requirements, the contractor must protect the pipe crew working in the trench from hazards. The width of the trench can be narrowed if use of a safety trench box or sheeting and shoring is implemented during construction.

During construction, the contractor will be required to install the pipe in a dry trench with proper soil, backfill, and compaction techniques. These construction requirements will be dictated by the contract plans and specifications in order to protect the pipe and to ensure the soil does not settle over time. During backfill of the newly installed pipe, compaction will be required in 6-inch to 1-foot lifts from the trench bottom to the surface.

Following compaction, the contractor will be required to restore the pavement to preconstruction conditions and the plans will call for the contractor to mill and resurface the entire lane of impacted roadway from edge of lane to edge of lane.

4.7.2 Trenchless Installation

There are several methods of trenchless installation, horizontal directional drill (HDD), jack and bore, and micro tunneling,

Horizontal direction drilling involves an entry and exit pit. Drilling starts with a smaller diameter pilot hole where drilling fluid is pumped through the pipe to a drill bit. The pilot hole is tracked, and a steering tool is used to maintain the bore path. Once the exit point is reached a reamer is attached

to enlarge the pilot hole. Lastly, the pipe is pulled back into the drill hole, using drilling fluid as a lubrication. A flexible pipe, commonly HDPE or fusible PVC is used for this construction method.

The jack and augering method of construction, also known as jack and bore is accomplished by jacking/pushing and augering a casing underneath a crossing that cannot be impacted by construction activities on the surface, i.e. railroad crossings and major roadway corridors. This method of construction includes a jacking pit and a receiving pit. The jacking pit is the location where the casing is lowered, set on a rail, welded, and jacked underneath the proposed crossing. The receiving pit is where the casing will terminate, on the other side of the crossing. The jacking pit construction area is larger than that of the receiving pit. Depth of casing installation varies depending on what utility or landowner is being crossed.

Like jack and boring, micro tunneling is a subsurface installation without disturbing the ground surface. However, this technology is much more advanced using a remote-controlled pipe jacking process to strategically guide the tunneling face. Unlike jack and bore and horizontal directional drilling, this method also has the potential to install pipes underground in a single pass (eg. No casing pipe). This method is proven effective for applications such as installation beneath railroads, harbors, rivers, and many environmentally sensitive areas. Pipe and casing materials such as steel or fiberglass-lined concrete jacking/carrier pipe are among those suitable for microtunnel construction.

4.8 Environmental Considerations

EarthBalance® ecologists conducted a desktop assessment to evaluate the environmental features along the alternative routes. The purpose of the assessment was to characterize any sensitive environmental features along a 50-foot-wide corridor within the alternate routes. Sensitive environmental features, including wetlands and habitat potentially occupied by threatened and endangered species, were the primary focus of the analysis. The following methods were employed to assess the proposed pipeline routes:

- Desktop analysis of protected habitats using natural resource data available in the public domain;
- Review of recent aerial photography of the routes;
- Review of the Soil Survey of Sarasota County, Florida (http://websoilsurvey.nrcs.usda.gov);
- Research of the Florida Natural Areas Inventory (FNAI) for documented occurrence and potential occurrence of protected wildlife species on or near the site;
- Review of the Florida Fish and Wildlife Conservation Commission's Eagle Nest Locator Site; and
- Review of available Sarasota County scrub jay mapping data.

4.8.1 Wetland Impact

The following table denotes the potential impacts to wetlands and Other Surface Waters (OSW) from the proposed pipeline routes. For the purpose of this analysis, it is assumed that all wetlands and surface waters within the pipeline corridor will be impacted.

Table 4-9 Wetland and Other Surface Water (OSW) Impacts

Phase	Route	OSW Impacts (Acres)	Herbaceous Wetland Impacts (Acres)	Forested Wetland Impacts (Acres)
Phase 1	A	4.34	6.29	3.61
	B	10.76	0.06	0.96
	C	0.65	0.06	0.79
	D	0.24	0.64	0.52
Phase 2	A	<0.01	0.00	0.14
	B	0.02	0.97	0.00
	C	0.11	0.98	0.13

Impacts to ponds, ditches, freshwater marshes, and wet prairie habitat are typically considered temporary by the regulatory agencies because these impacted areas will be restored to preconstruction grades. Since the impacts are classified as temporary, no wetland mitigation is required. Several forested systems (streams and lake swamps, inland ponds and sloughs, and hydric pine flatwoods) occur within the proposed routes. Typically, forested systems are converted to herbaceous systems post construction. The reason for this is that trees are not allowed to grow on top of the water line to preserve the integrity of the pipe. The conversion of a forested wetland system to an herbaceous wetland system will require mitigation. As shown in Table 4-9 above, Phase 1 Route A would have the greatest potential impacts to forested wetlands.

In addition to potential impacts to protected wetland habitat, the project may impact mesic hammock habitat, a natural resource given protection by Sarasota County. Mesic hammock habitat is sensitive upland habitat that is protected by Sarasota County. These are forested communities typically comprised of cabbage palm and a mixture of oak species within the canopy. The trees generally form a dense closed canopy. The closed canopy creates the conditions for a microclimate that is cooler than the surrounding habitat. The reduced light limits the shrub and groundcover species creating a generally open understory. These habitats are found at the fringe wetlands and water courses. In determining impacts related to mesic hammocks, Sarasota County staff will assist in the evaluation of potential impacts resulting from this project.

The County guidelines state that up to 25% of hammocks may be cleared in accordance with the “Principles for Evaluating Development within Native Habitats” and no mitigation is required. A field review is required to determine the extent of these habitats within the potential pipeline corridors.

4.8.2 Wildlife Habitat Impact

County, State, and federal wildlife databases were reviewed for the potential of protected wildlife species to occur along the proposed routes. These species included bald eagle, Florida scrub jay, eastern indigo snake, wood stork, and wading bird rookeries. The presence or absence of critical habitat for these species was also evaluated. The results indicate that protected wildlife species and habitat occur along the proposed routes or nearby. Additional wildlife surveys may be required by the County, Florida Fish and Wildlife Conservation Commission (FWC), and United States Fish and Wildlife Service (USFWS) upon review of the permit application for the selected pipeline route. Table 4-10 provides a list of wildlife species that have the potential to occur along the proposed routes.

Table 4-10 Protected Species Potentially Occurring Along the Pipeline Routes

Common Name	Scientific Name	Federal Status	State Status
Amphibians			
Florida Scrub Jay	*Aphelocoma coerulescens*	FT	ST
Little Blue Heron	*Egretta caerulea*	N	ST
Tri-colored Heron	*Egretta tricolor*	N	ST
Florida sandhill crane	*Grus canadensis pratensis*	N	ST
Bald Eagle	*Haliaeetus leucocephalus*	N	N
Wood Stork	*Mycteria americana*	FT	ST
Mammals			
Sherman's fox squirrel	*Sciurus niger shermani*	N	ST
Reptiles			
Eastern indigo snake	*Drymarchon couperi*	FT	ST
Gopher tortoise	*Gopherus polyphemus*	N	ST
Florida pine snake	*Pituophis melanoleucus mugitus*	N	ST

FT = federal threatened, N = not listed, ST = state threatened, N = not listed

Although Table 4-10 provides a listing of species that may occur within the study area, only a few species would likely be impacted by the construction of the selected pipeline. The species that could be affected by construction of any of the proposed pipeline routes are discussed below.

Bald Eagle

The bald eagle was removed from the federal list of threatened and endangered species on June 28, 2007 but will still be protected under the Bald and Golden Eagle Protection Act (Eagle Act), the Migratory Bird Treaty Act, and on the State level by the bald eagle management plan. Depending on the type of construction, the FWC designates a 660-foot and a 330-foot no activity buffer zone surrounding active eagle nests. Construction may be permissible within the 330-foot buffer if monitoring of the nest is conducted during the eagle nesting season (October 1 to May 31). A review of the State's eagle nest locator database indicates that there are eagle nests (SA008, SA035, SA042,

SA056) within the vicinity of the proposed routes, however none of the nests are within 660 feet of any of the proposed routes. Field review assessments are recommended to confirm that the selected route will not have any impacts on this species.

Wood Stork

The wood stork is a State and federal listed endangered species with a defined core foraging area (CFA) of an 18.6-mile radius for each breeding colony. The northern limit of its breeding range is the southeastern U.S., where it breeds in colonies with great egrets, snowy egrets, white ibises, and many other wading bird species. The unique feeding method of the wood stork gives it specialized habitat requirements. Normally an inhabitant of swamplands, wood storks often forage in rural ditches and ponds. Wood storks can be found feeding in shallow water in both freshwater and coastal wetlands, including tidal creeks and flats, marshes, cypress swamps, ponds, ditches, and flooded fields. Colonies are typically located on coastal islands and on willow islands in swamps, cypress swamps, impoundments, and other inundated areas. The proposed routes are within wood stork's core foraging habitat.

Eastern Indigo Snake

Both the FWC and the USFWS list the eastern indigo snake as threatened. The eastern indigo snake is the largest North American snake and occurs within habitats throughout most of Florida. It can be found in a range of habitats from dry sandy areas to mangrove swamps and wet prairies. It is frequently encountered in pine flatwoods as well as in the moist tropical hammocks of South Florida. In drier environments, indigo snakes often seek shelter in gopher tortoise burrows.

The USFWS has developed the "Standard Protection Measures for the Indigo Snake" to ensure that no indigo snakes are harmed by construction activities. The plan consists of the methods used to educate construction personnel about the species, with particular attention to correct identification and procedures to follow in the event indigo snakes are encountered. Because the indigo snake has potential to occur along the proposed routes, the "Standard Protection Measures for the Indigo Snake" (Attachment 2) is required to be implemented during construction of the selected pipeline route.

Gopher Tortoise

The gopher tortoise is listed as threatened by the FWC. This species prefers dry, well drained soils that are typical within the project area. The FWC currently allows mitigation options to offset impacts to a gopher tortoise population including complete avoidance, establishing a 25-foot buffer surrounding the burrow, and on-site and/or off-site relocation. Gopher tortoise burrows are typically observed in the open sandy and grassy areas. Gopher tortoise burrows are considered suitable habitat and are often used by commensal species, such as the eastern indigo snake and gopher frog. Because gopher tortoises are mobile, surveys are only valid for 90 days. The uplands of any selected route should be surveyed for Gopher Tortoises at least 90 days prior to construction. Multiple surveys may be required during the permitting phase of the project to determine species occurrence within the selected pipeline

route. A permit to relocate gopher tortoises from the project area will be required from the FWC should avoidance of burrows not be possible.

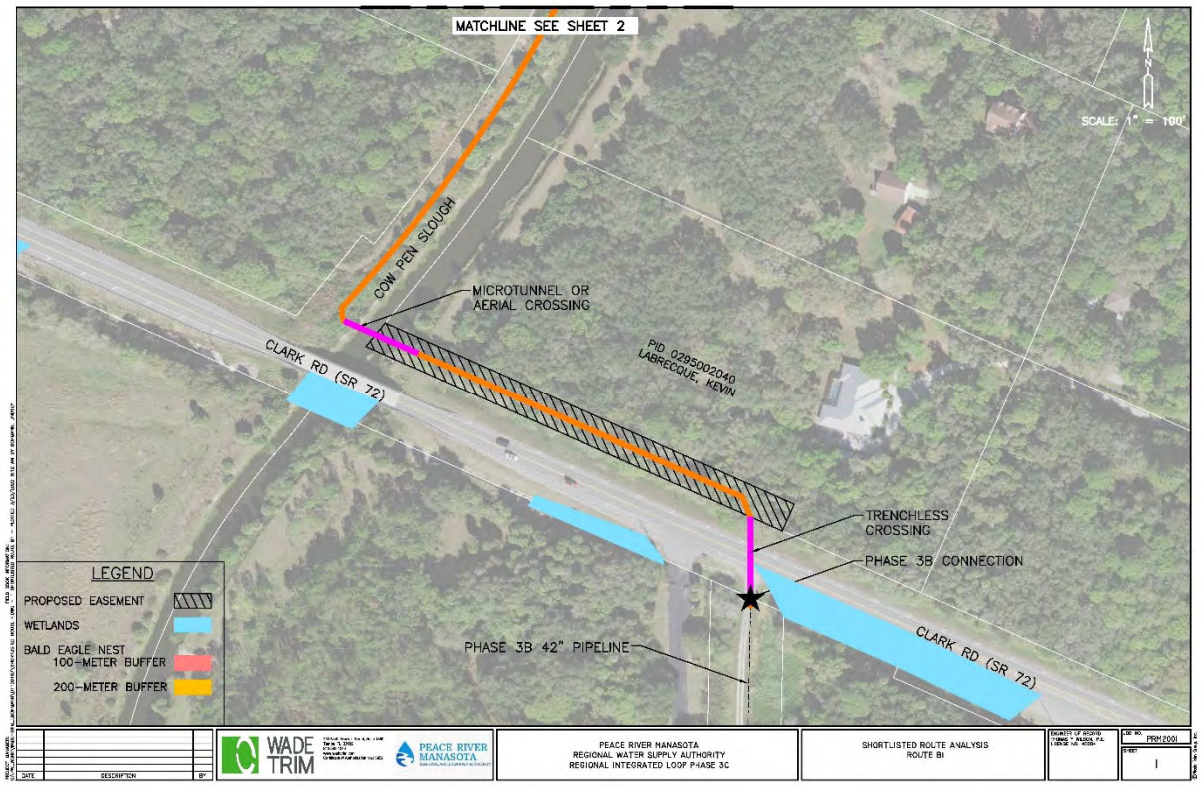
5.0 FINAL RECOMMENDATIONS

It is recommended the Authority proceed with construction of the Phase 1 facilities including Route B1 (41,306 LF of 42-inch water transmission main), the pumping station, at least 5 MG of ground storage (10 MG ultimate) and associated site facilities including electrical equipment, generator, chemical injection, administrative building, stormwater system, driveway and parking, site utilities, etc. Phase 1 includes the transmission main from the pump station to the point of connection to Sarasota County's distribution system. If the POC is moved to near intersection of Lorraine Road and Blue Lake Road to meet the needs of Sarasota County, an additional 6,850 LF of 42-inch water transmission main at an estimated cost of $3,253,750 will be required.

Five split-case pumps with a capacity of 6.5 MGD each are recommended for the pumping station with a total firm capacity of 26 MGD. Additional details on the pump station will be included in a separate technical memorandum addressing hydraulics and water quality.

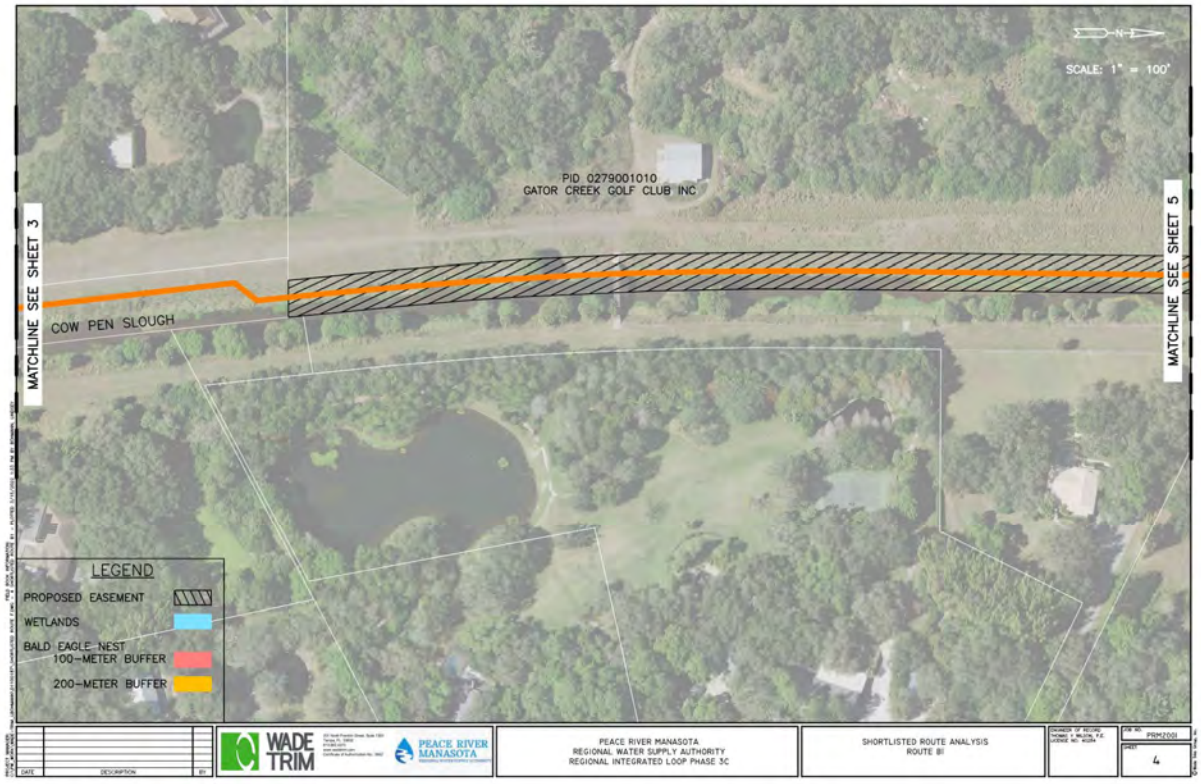
Phase 2 recommended facilities include either Route A2 or Route B2 of 42-inch and 36-inch water transmission main to the Point of Connection to Manatee County at University Parkway and Lakewood Ranch Boulevard. In order to maintain satisfactory water quality in this main, it is recommended to provide at least 3 MGD to Manatee County continuously. This same amount of Water can be provided by Manatee County back to Sarasota County at the University Pump Station located on University Parkway and Lockwood Ridge Road. Manatee County projects a need for regional water supply from the Authority in 2037 at which time the water swap described may no longer be required to maintain satisfactory water quality. Arrangement for this water swap may require upgrades to pumping and storage facilities at the interconnections.

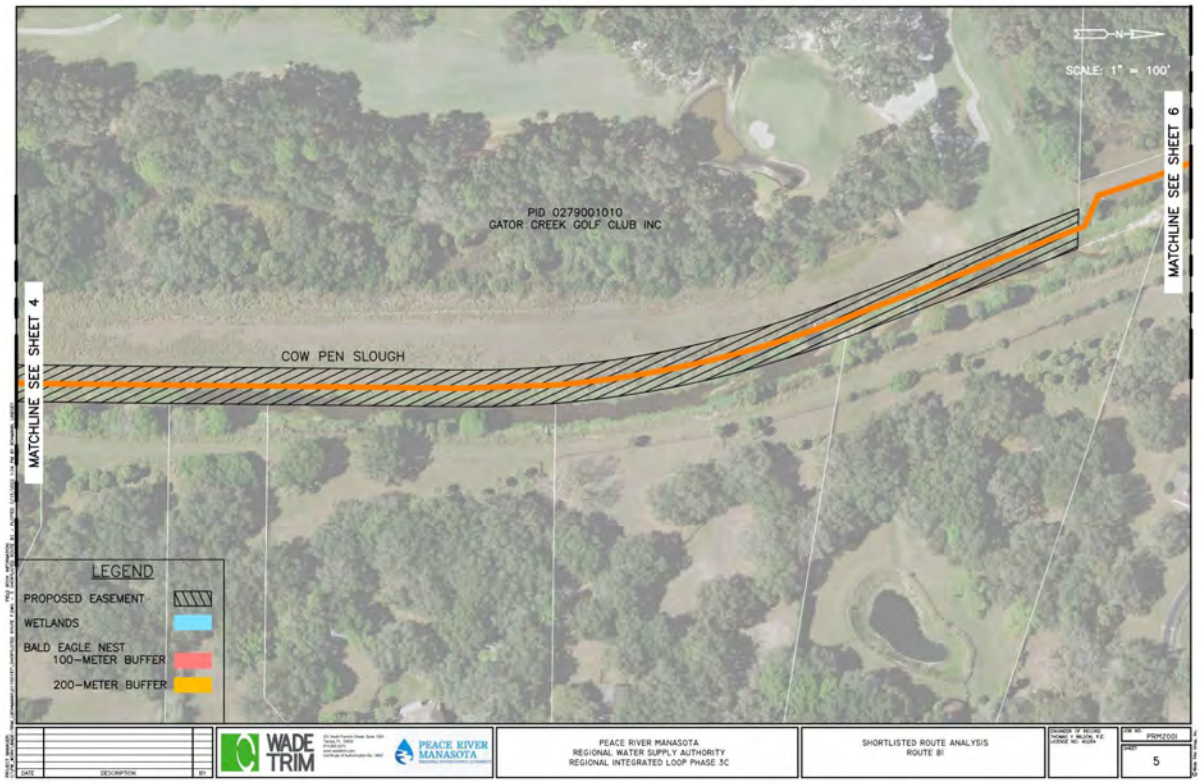
Appendix A.
1” =100’ Scale Conceptual Plans


MATCHLINE SEE SHEET 2
SCALE: 1" = 100'
COW PEN SLOUGH
MICROTUNNEL OR
AERIAL CROSSING
PID 0295002040
LABRECQUE, KEVIN
CLARK RD (SR 72)
TRENCHLESS
CROSSING
PHASE 3B CONNECTION
PHASE 3B 42" PIPELINE
CLARK RD (SR 72)
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
1


SCALE: 1" = 100'
MATCHLINE SEE SHEET 1
MATCHLINE SEE SHEET 3
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
2

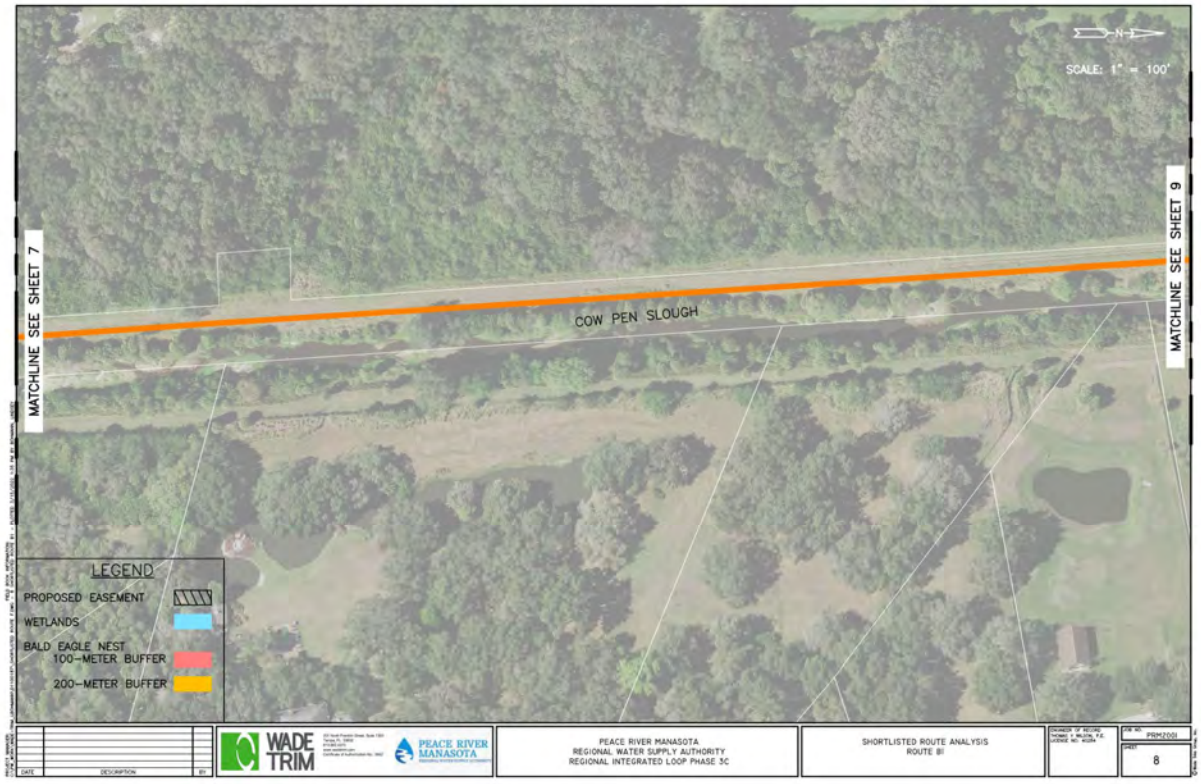

SCALE: 1" = 100'
MATCHLINE SEE SHEET 4
MATCHLINE SEE SHEET 2
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
3

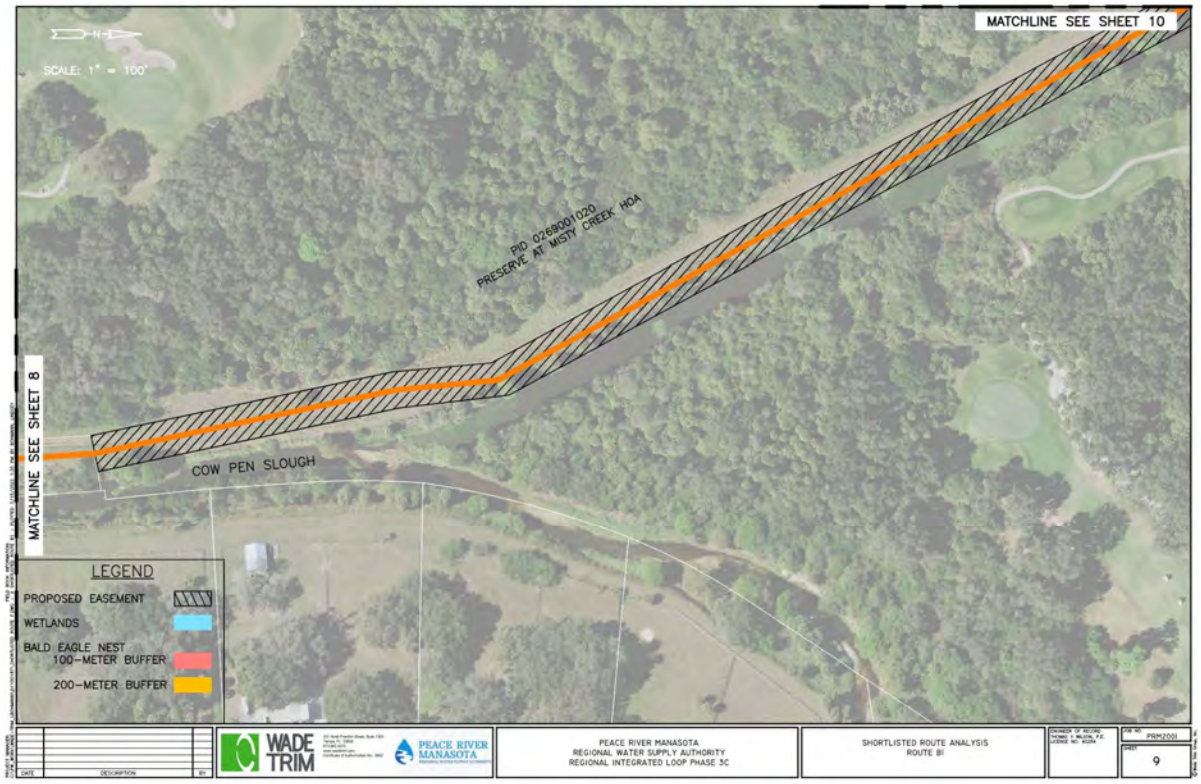

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MATCHLINE SEE SHEET 5
MATCHLINE SEE SHEET 3
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
4


SCALE: 1" = 100'
MATCHLINE SEE SHEET 6
MATCHLINE SEE SHEET 4
PID 0279001010
GATOR CREEK GOLF CLUB INC
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
5


SCALE: 1" = 100'
MATCHLINE SEE SHEET 7
MATCHLINE SEE SHEET 5
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
6

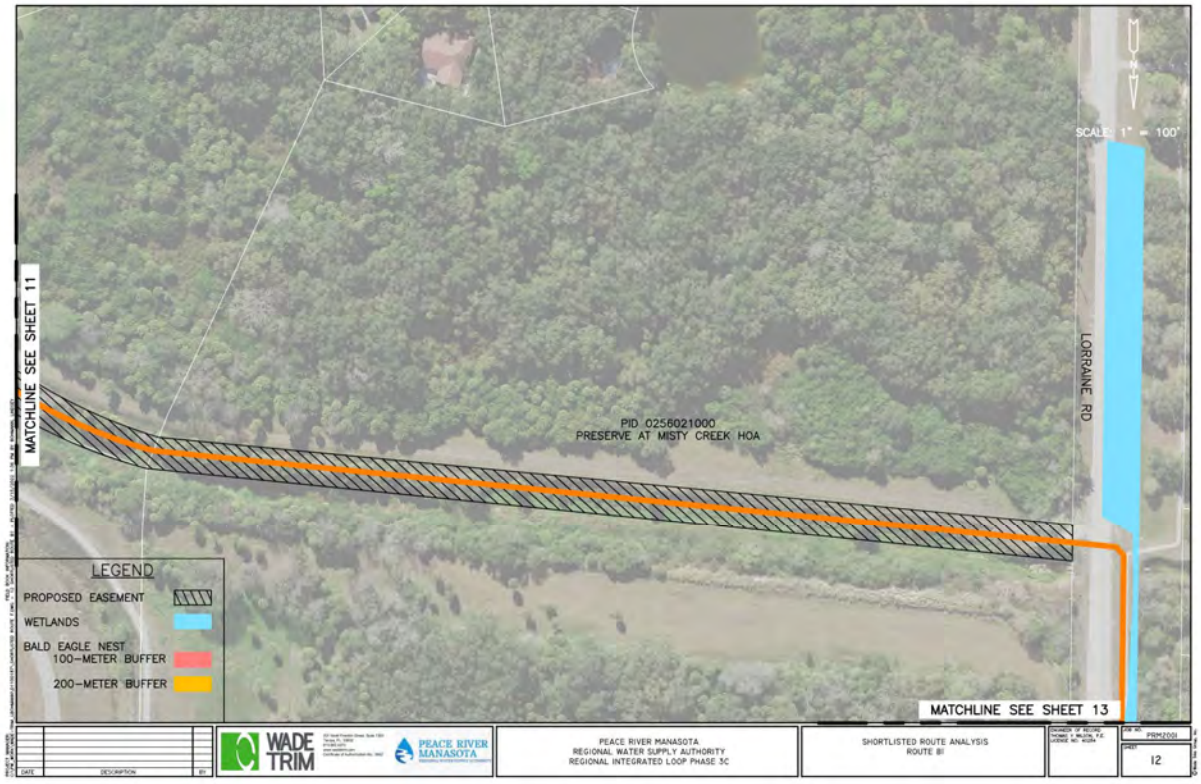

SCALE: 1" = 100'
MATCHLINE SEE SHEET 6
MATCHLINE SEE SHEET 8
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
7

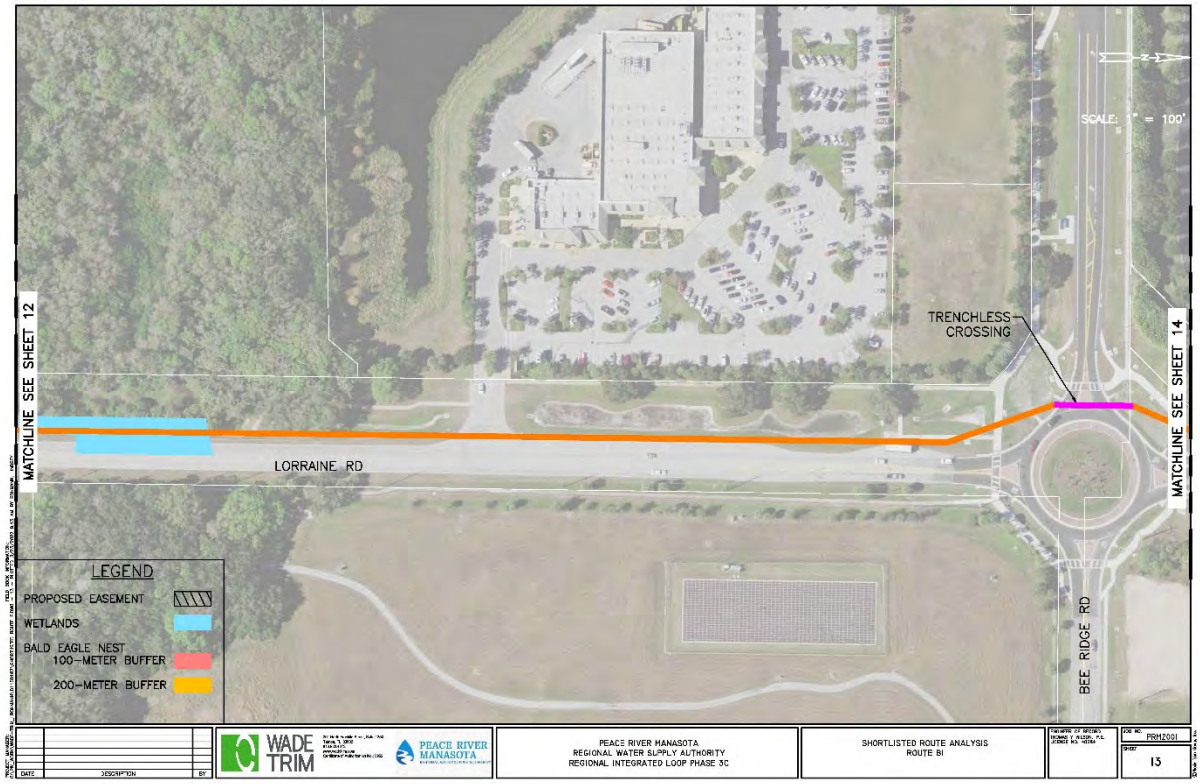

SCALE: 1" = 100'
MATCHLINE SEE SHEET 7
MATCHLINE SEE SHEET 9
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
8


MATCHLINE SEE SHEET 10
SCALE: 1" = 100'
PID 0269001020
PRESERVE AT MISTY CREEK HOA
COW PEN SLOUGH
MATCHLINE SEE SHEET 8
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
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9

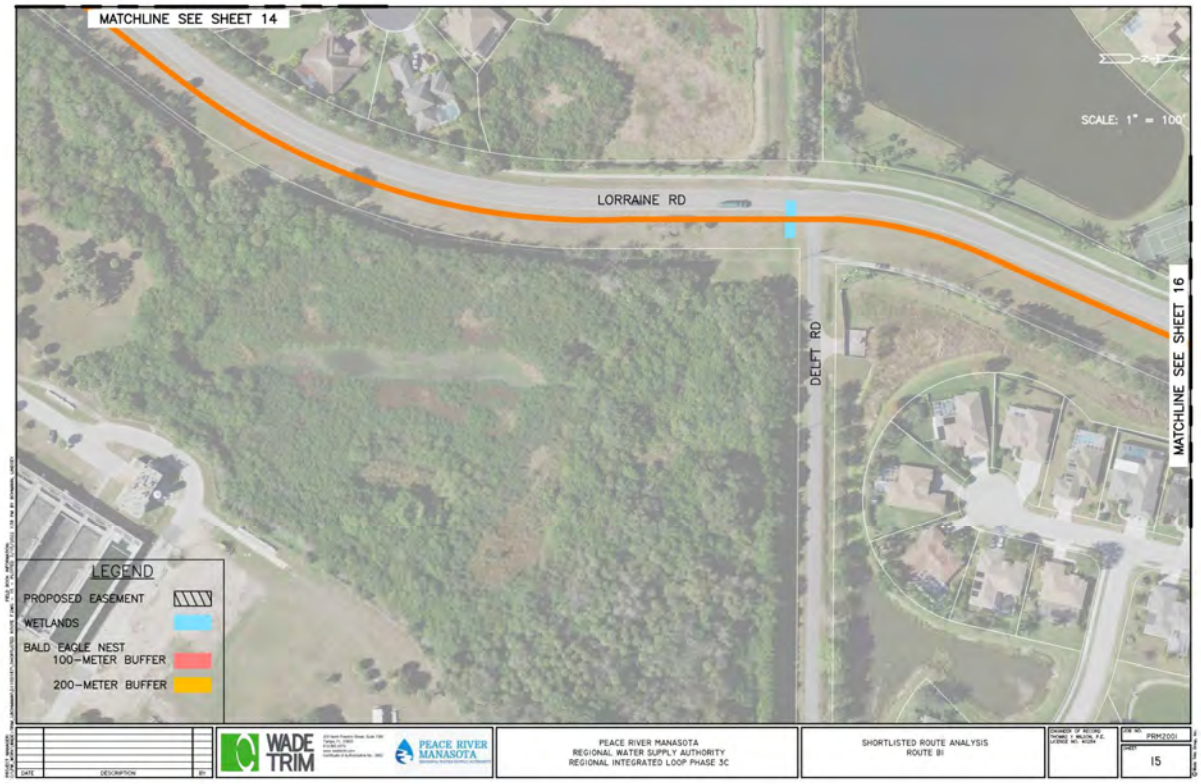

SCALE: 1" = 100'
MATCHLINE SEE SHEET 11
PID 0269001020
PRESERVE AT MISTY CREEK HOA
MATCHLINE SEE SHEET 9
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
10


MATCHLINE SEE SHEET 12
SCALE: 1" = 100'
PID 0256030100
PRESERVE AT MISTY CREEK HOA
PID 0269001020
PRESERVE AT MISTY CREEK HOA
MATCHLINE SEE SHEET 10
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
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REGIONAL INTEGRATED LOOP PHASE 3C
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11

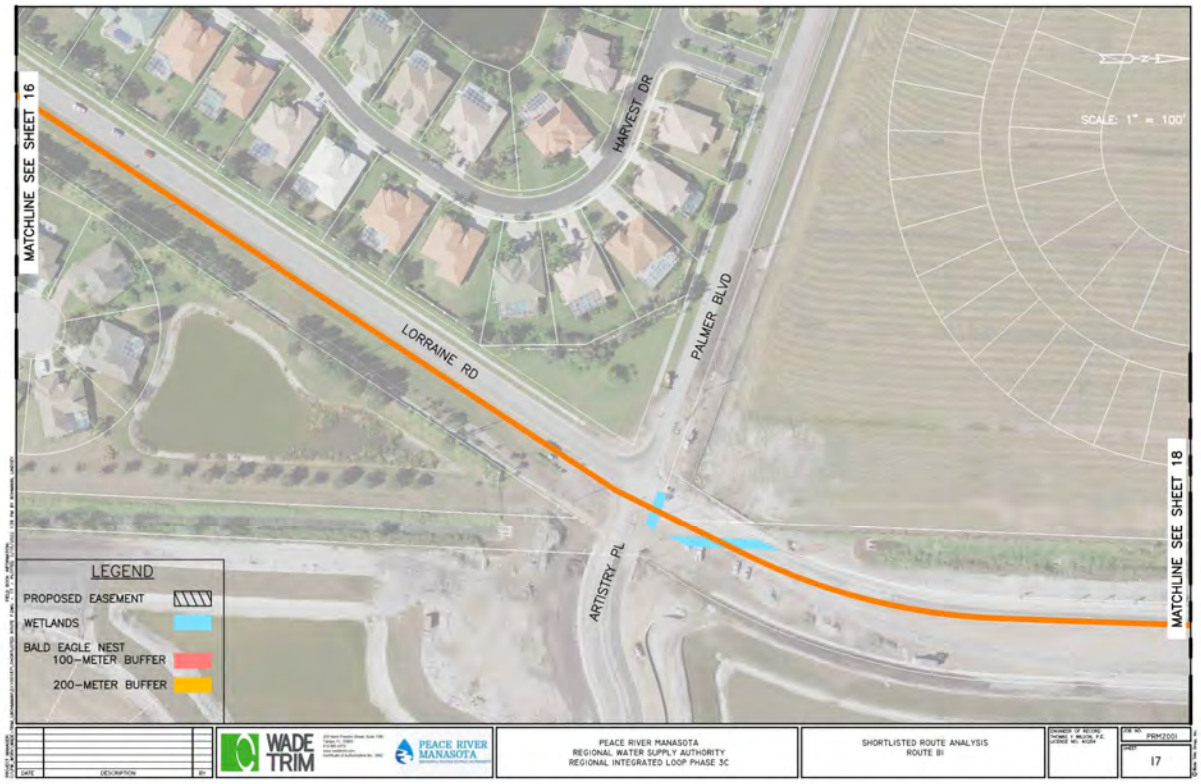

SCALE: 1" = 100'
MATCHLINE SEE SHEET 11
PID 0256021000
PRESERVE AT MISTY CREEK HOA
LORRAINE RD
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
MATCHLINE SEE SHEET 13
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
12


MATCHLINE SEE SHEET 12
LORRAINE RD
TRENCHLESS CROSSING
MATCHLINE SEE SHEET 14
BEE RIDGE RD
SCALE: 1" = 100'
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
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REGIONAL INTEGRATED LOOP PHASE 3C
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PRM2001
13

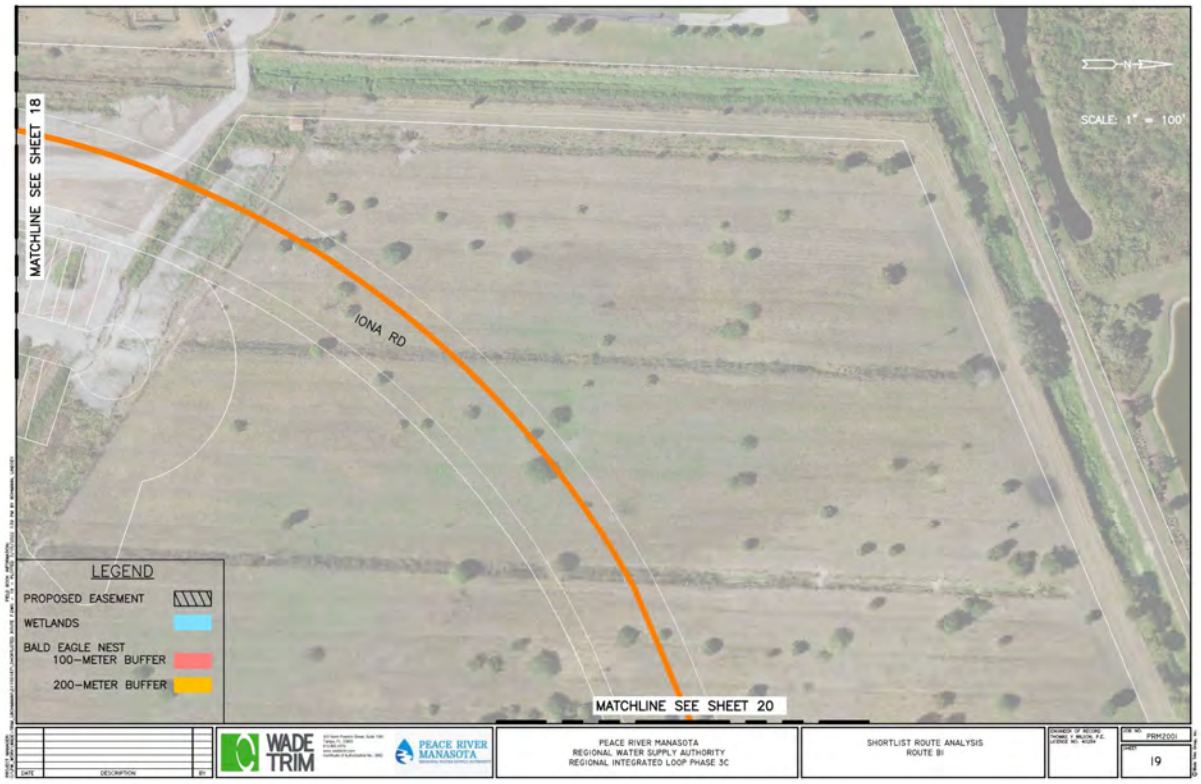

MATCHLINE SEE SHEET 13
EAGLE HAMMOCK DR
LORRAINE RD
MEGAN HAMMOCK WAY
MATCHLINE SEE SHEET 15
SCALE: 1" = 100'
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
14

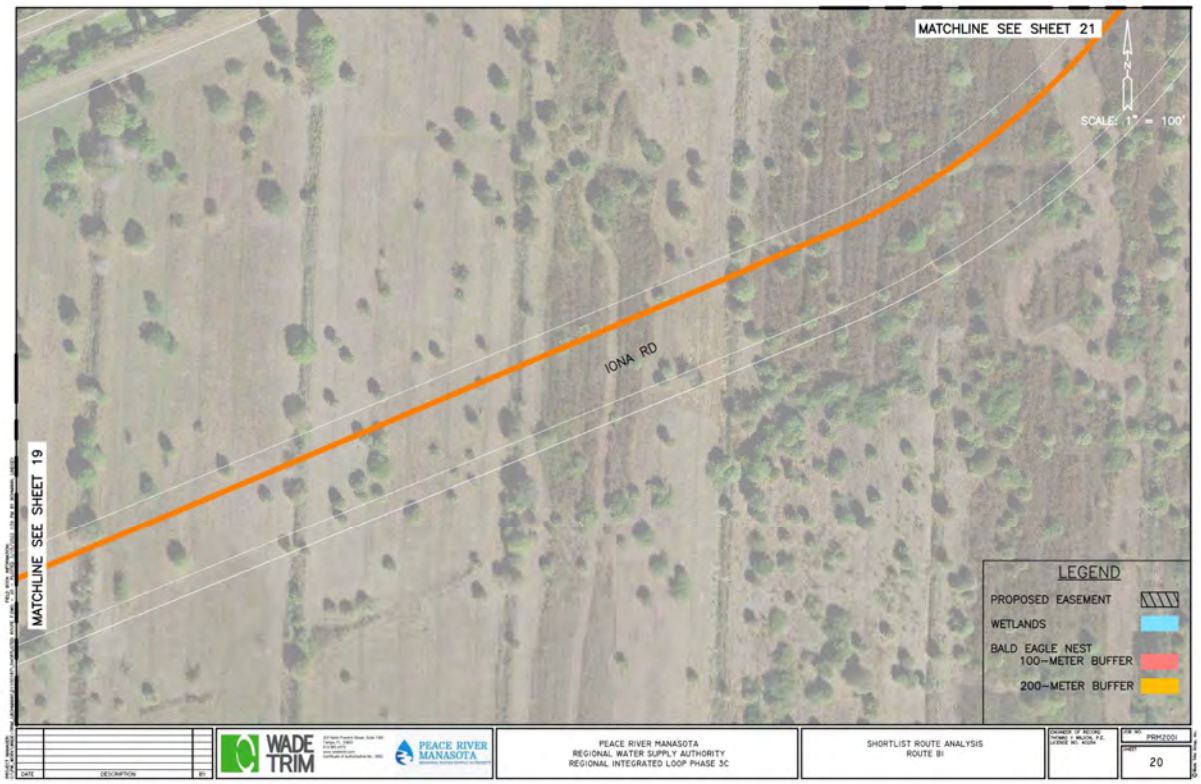

MATCHLINE SEE SHEET 14
SCALE: 1" = 100'
LORRAINE RD
DELFT RD
MATCHLINE SEE SHEET 16
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
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PRM2001
15

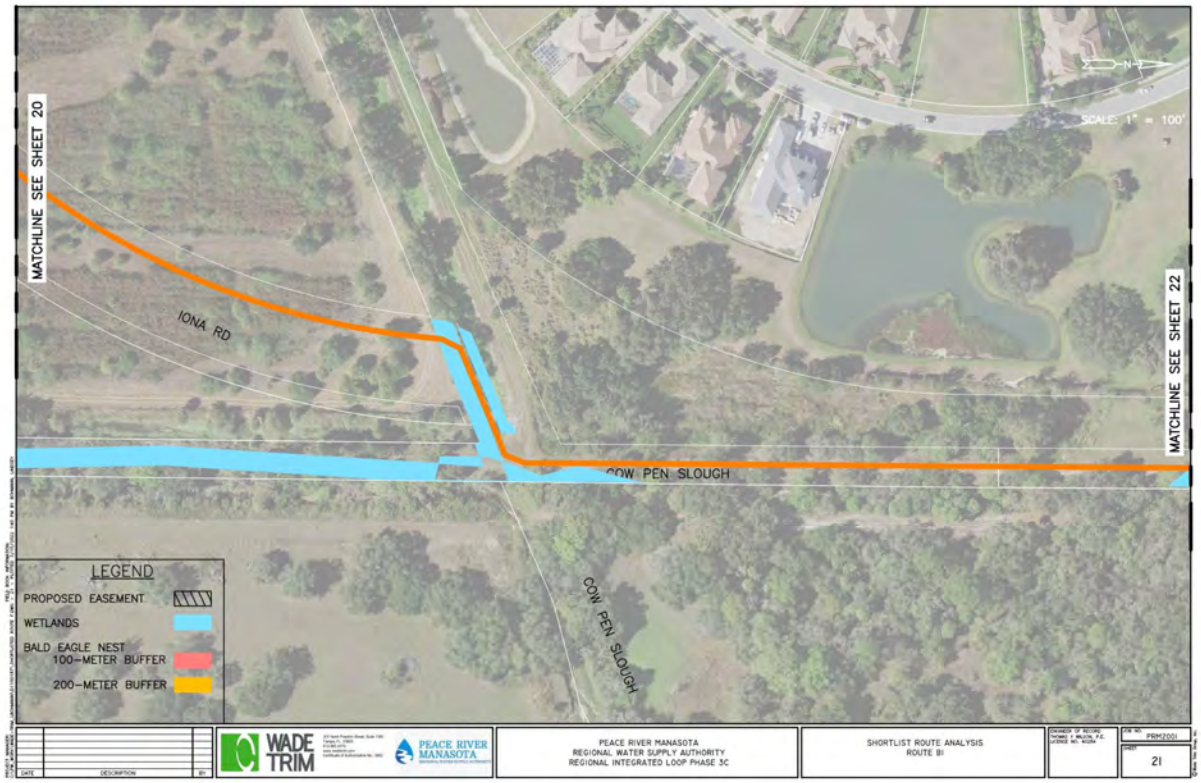

MATCHLINE SEE SHEET 15
SCALE: 1" = 100'
HARVEST DR
LORRAINE RD
LAUREL MEADOWS BLVD
VINTAGE ST
MATCHLINE SEE SHEET 17
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
16


MATCHLINE SEE SHEET 16
HARVEST DR
LORRAINE RD
PALMER BLVD
ARTISTRY PL
MATCHLINE SEE SHEET 18
SCALE: 1" = 100'
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTE ANALYSIS
ROUTE B1
PRM2001
17


MATCHLINE SEE SHEET 17
MATCHLINE SEE SHEET 19
WEBBER RD
CANVAS CT
VIGNETTE WAY
SCALE: 1" = 100'
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
18


MATCHLINE SEE SHEET 18
IONA RD
SCALE: 1" = 100'
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
MATCHLINE SEE SHEET 20
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
19

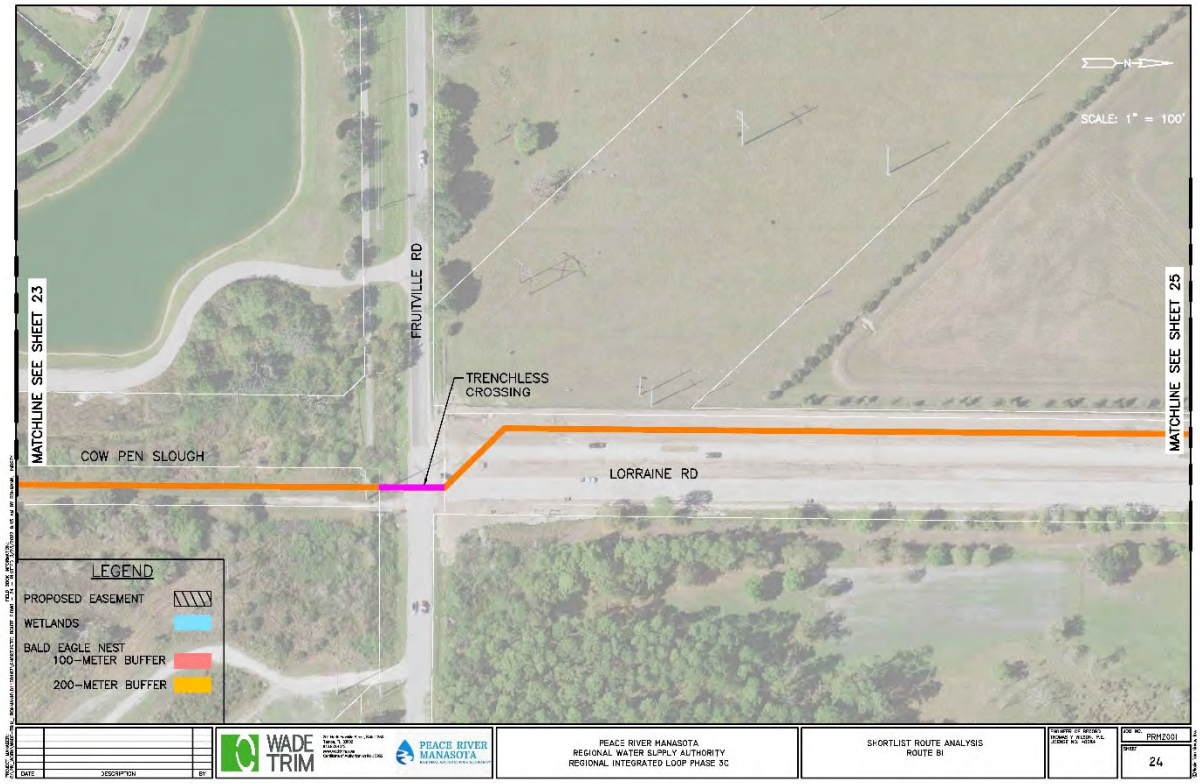

MATCHLINE SEE SHEET 21
SCALE: 1" = 100'
IONA RD
MATCHLINE SEE SHEET 19
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
20


MATCHLINE SEE SHEET 20
IONA RD
COW PEN SLOUGH
MATCHLINE SEE SHEET 22
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
21

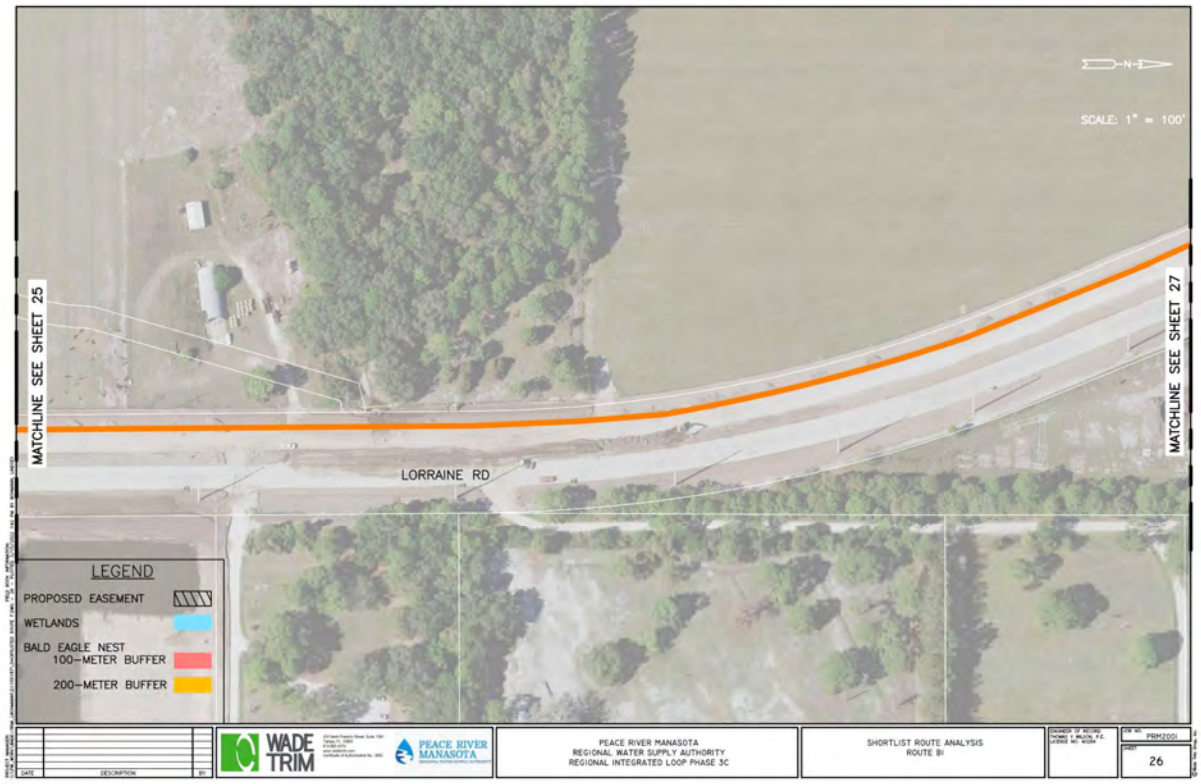

MATCHLINE SEE SHEET 21
COW PEN SLOUGH
MATCHLINE SEE SHEET 23
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
22

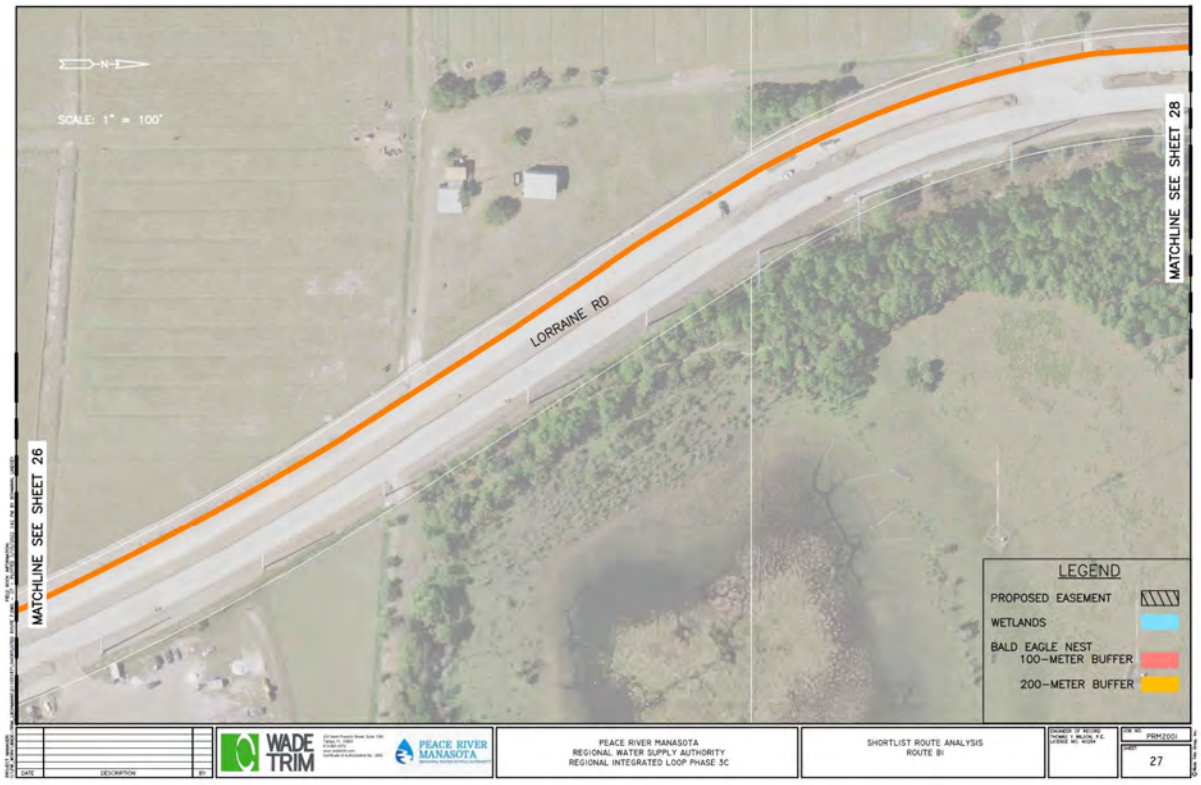

FOUNDERS CLUB DR
SCALE: 1" = 100'
MATCHLINE SEE SHEET 22
MATCHLINE SEE SHEET 24
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
23


FOUNDERS CLUB DR
SCALE: 1" = 100'
MATCHLINE SEE SHEET 22
MATCHLINE SEE SHEET 24
COW PEN SLOUGH
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
23


SCALE: 1" = 100'
MATCHLINE SEE SHEET 23
MATCHLINE SEE SHEET 25
FRUITVILLE RD
TRENCHLESS CROSSING
COW PEN SLOUGH
LORRAINE RD
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
24


SCALE: 1" = 100'
MATCHLINE SEE SHEET 24
MATCHLINE SEE SHEET 26
LORRAINE RD
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
25


SCALE: 1" = 100'
MATCHLINE SEE SHEET 25
MATCHLINE SEE SHEET 27
LORRAINE RD
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
26


SCALE: 1" = 100'
MATCHLINE SEE SHEET 26
MATCHLINE SEE SHEET 28
LORRAINE RD
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
27


SCALE: 1" = 100'
END OF PHASE 1
LORRAINE RD
MATCHLINE SEE SHEET 27
LEGEND
PROPOSED EASEMENT
WETLANDS
BALD EAGLE NEST
100-METER BUFFER
200-METER BUFFER
WADE TRIM
PEACE RIVER MANASOTA
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLIST ROUTE ANALYSIS
ROUTE B1
PRM2001
28

Appendix B.
Comparable Cost Details for Alternative Routes and Cost Estimates

Route Study - Phase 1 Route A1

DESCRIPTION	QTY.	UNIT	UNIT PRICE		AMOUNT
Sitework					
Mobilization (5%)	1	LS	$1,244,000	$	1,244,000
Easement Acquisition	16	*		$	6,355,266
F&I 42" WTM	49988	LF	$475	$	23,745,000
F&I Jack and Bore Steel Casing, for 42-Inch Carrier Pipe	300	LF	$2,250	$	675,000
42" MJ BV	10	EA	$45,000	$	450,000
			SUBTOTAL	$	32,469,266
			ENGINEERING AND CONSTRUCTION SERVICES (20%)	$	6,493,853
			CONTINGENCY (25%)	$	8,118,000
			PUMP STATION	$	13,861,000
			TOTAL	$	60,942,119

* Easement cost equals estimated value per acre plus $40,000/easement administrative cost

Route Study - Phase 1 Route B1

DESCRIPTION	QTY.	UNIT	UNIT PRICE		AMOUNT
Sitework					
Mobilization (5%)	1	LS	$1,028,000	$	1,028,000
Easement Acquisition	5	*		$	825,918
F&I 42" WTM	22,906	LF	$475	$	10,881,000
F&I 42" WTM open grassed area	18,400	LF	$435	$	8,004,000
F&I Jack and Bore Steel Casing, for 42-Inch Carrier Pipe	320	LF	$2,250	$	720,000
42" WTM by Microtunnel	150	LF	$2,850	$	428,000
Microtunnel Shafts	2	EA	$150,000	$	300,000
42" MJ BV	5	EA	$45,000	$	225,000
			SUBTOTAL	$	22,411,918
			ENGINEERING AND CONSTRUCTION SERVICES (20%)	$	4,482,384
			CONTINGENCY (25%)	$	5,603,000
			PUMP STATION	$	13,861,000
			TOTAL	$	46,358,302

* Easement cost equals estimated value per acre plus $40,000/easement administrative cost

Route Study - Phase 1 Route C1

DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
Sitework				
Mobilization (5%)	1	LS	$1,083,000	$ 1,083,000
F&I 42" WTM	41957	LF	$475	$ 19,930,000
F&I Jack and Bore Steel Casing, for 42-Inch Carrier Pipe	285	LF	$2,250	$ 642,000
42" WTM by Microtunnel	150	LF	$2,850	$ 428,000
Microtunnel Shafts	2	EA	$150,000	$ 300,000
42" MJ BV	8	EA	$45,000	$ 360,000
			SUBTOTAL	$ 22,743,000
			ENGINEERING AND CONSTRUCTION SERVICES (20%)	$ 4,548,600
			CONTINGENCY (25%)	$ 5,686,000
			PUMP STATION	$ 13,861,000
			TOTAL	$ 46,838,600

Route Study - Phase 2 Route A2

DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
Sitework				
Mobilization (5%)	1	LS	$666,000	$ 666,000
F&I 36" WTM	21516	LF	$418	$ 8,994,000
F&I 42" WTM	6850	LF	$475	$ 3,254,000
42" WTM by Jack and Bore 60" Steel Casing	300	LF	$2,850	$ 855,000
36" MJ BV	4	EA	$40,000	$ 160,000
42" MJ BV	1	EA	$45,000	$ 45,000
			SUBTOTAL	$ 13,974,000
			ENGINEERING AND CONSTRUCTION SERVICES (20%)	$ 2,794,800
			CONTINGENCY (25%)	$ 3,494,000
			TOTAL	$ 20,262,800

Route Study - Phase 2 Route B2

DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
Sitework				
Mobilization (5%)	1	LS	$710,000	$ 710,000
Easement Acquisition	1	LS	$3,325,950	$ 3,326,000
F&I 36" WTM	25577	LF	$418	$ 10,692,000
F&I 42" WTM	6850	LF	$475	$ 3,254,000
36" MJ BV	5	EA	$40,000	$ 200,000
42" MJ BV	1	EA	$45,000	$ 45,000
			SUBTOTAL	$ 18,227,000
			ENGINEERING AND CONSTRUCTION SERVICES (20%)	$ 3,645,400
			CONTINGENCY (25%)	$ 4,557,000
			TOTAL	$ 26,429,400

Route Study - Phase 2 Route C2

DESCRIPTION	QTY.	UNIT	UNIT PRICE	AMOUNT
Sitework				
Mobilization (5%)	1	LS	$1,296,000	$ 1,296,000
Easement Acquisition	1	LS	$1,888,786	$ 1,888,800
F&I 36" WTM	49738	LF	$418	$ 20,791,000
F&I 42" WTM	6850	LF	$475	$ 3,254,000
F&I 36" WTM by Jack and Bore, 54" Steel Casing	695	LF	$2,050	$ 1,425,000
36" MJ BV	10	EA	$40,000	$ 400,000
42" MJ BV	1	EA	$45,000	$ 45,000
			SUBTOTAL	$ 29,099,800
			ENGINEERING AND CONSTRUCTION SERVICES (20%)	$ 5,819,960
			CONTINGENCY (25%)	$ 7,275,000
			TOTAL	$ 42,194,760

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ENGINEER'S OPINION OF CONSTRUCTION COST

PROJECT: Peace River Pump Station and Storage
LOCATION: Sarasota County, FL
BASIS FOR ESTIMATE: [X] Conceptual [ ] 30% [ ] 60% [ ] 100%
WORK:
Date: 01/04/22
Project No.: PRM2021

ITEM NO.	DESCRIPTION	AMOUNT
1	**Civil**	$ 735,000
2	**Structural**	$ 6,832,000
3	**Process-Mechanical**	$ 1,624,000
4	**Electrical**	$ 1,029,000
	SUBTOTAL	$ 10,220,000
	Property Acquisition	$ 1,500,000
	Mobilization & Demobilization (Max 7.5%)	$ 767,000
	Contractor Insurance & Bonding (5%)	$ 550,000
	Contractor Overhead & Profit (20%)	$ 2,077,000
	Engineer's Estimate Contingency (25%)	$ 3,641,000
	Total Construction Cost	**$ 13,861,000**

This Engineer's Opinion of Construction Costs is provided based on available information and the engineer's experience and qualifications and represents his best judgement as a design professional familiar with the construction industry. The engineer has no control over the costs of labor, materials, equipment, or over the contractor's methods of determing prices or over competitive bidding or market comditions. The engineer cannot and does not guarantee that proposals, bids or construction cost will not vary from this estimate.

ENR Construction Cost Index = 12481 (December 2021)

Al Mitrovic — Engineer's Name
January 4, 2022 — Date

Prepared by:
Wade Trim, Inc.
3790 Dixie Highway NE
Suite D
Palm Bay, FL 32905

WADE TRIM

ENGINEER'S OPINION OF CONSTRUCTION COST

PROJECT	Peace River Pump Station and Storage	**DATE:**	01/04/22
LOCATIOI	Sarasota County, FL	**PROJECT NO.**	PRM2021

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

BASIS FOR ESTIMATE: **[X] Conceptual** **[ ] 30%** **[ ] 60%** **[ ] 100%**

WORK: Civil

ITEM NO.	DESCRIPTION	QUANT.	UNIT	UNIT AMOUNT	TOTAL AMOUNT
1	**Site Work**				$ -
1.1	Pond (88,000 SF)	1	LS	200,000	$ 200,000
1.2	Site Improvements (clearing & grubbing, dewatering, grading)	1	LS	450,000	$ 450,000
1.3	Valve & Meter Boxes	3	EA	9,000	$ 27,000
1.4	Driveway & Sidewalks	1	LS	58,000	$ 58,000
					$ -
	Total				**$ 735,000**

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ENGINEER'S OPINION OF CONSTRUCTION COST

PROJECT:	Peace River Pump Station and Storage	DATE:	01/04/22
LOCATION:	Sarasota County, FL	PROJECT NO.	PRM2021

ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST

BASIS FOR ESTIMATE: [X] Conceptual [ ] 30% [ ] 60% [ ] 100%

WORK: Structural

ITEM NO.	DESCRIPTION	QUANT.	UNIT	UNIT AMOUNT	TOTAL AMOUNT
1	**Admin Building**				$ -
1.1	Structural/Architectural (1,500 SF)	1	LS	$ 225,000	$ 225,000
					$ -
2	**Pump Room**				$ -
2.1	Building (3,500 SF)	1	LS	$ 400,000	$ 400,000
2.2	Structural Slabs	1	LS	$ 50,000	$ 50,000
					$ -
3	**5 MG Storage Tanks**				$ -
3.1	5 MG Tank	2	EA	$ 2,714,000	$ 5,428,000
					$ -
4	**Electrical Room**				$ -
4.1	Building (1,200 SF)	1	LS	$ 225,000	$ 225,000
4.2	Structural Slabs	1	LS	$ 10,000	$ 10,000
					$ -
5	**Generator**				$ -
5.1	6,000 gal Fuel Tank Structural Slab	1	LS	$ 8,700	$ 8,700
5.2	Transformer Structural Slab	1	LS	$ 5,000	$ 5,000
5.3	Generator Structural Slab	1	LS	$ 9,800	$ 9,800
5.4	Building (1,000 SF)	1	LS	$ 225,000	$ 225,000
					$ -
6	**Chemical Room**				$ -
6.1	Building (1,200 SF)	1	LS	$ 225,000	$ 225,000
6.2	Fill Station	1	LS	$ 10,000	$ 10,000
6.3	Structural Slabs	1	LS	$ 10,000	$ 10,000
					$ -
					$ -
					$ 6,832,000

Page 1

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ENGINEER'S OPINION OF CONSTRUCTION COST

PROJECT:	Peace River Pump Station and Storage	DATE:	01/04/22
LOCATION:	Sarasota County, FL	PROJECT NO.	PRM2021

ENGINEER'S OPINION OF CONSTRUCTION COST

BASIS FOR ESTIMATE: [X] Conceptual [ ] 30% [ ] 60% [ ] 100%

WORK: Process-Mechanical

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT AMOUNT	TOTAL AMOUNT
1	**Admin Building**				$ -
1.1	Plumbing	1	LS	$ 50,000	$ 50,000
					$ -
2	**Site Work**				$ -
2.1	Process Yard Piping	1	LS	$ 750,000	$ 750,000
					$ -
3	**Pump Room**				$ -
3.1	Interior Piping & Valves	1	LS	$ 130,000	$ 130,000
3.2	5 MGD Pumps	5	EA	$ 90,000	$ 450,000
					$ -
4	**5 MG Storage Tanks**				$ -
4.1	Process Mechanical	1	LS	$ 50,000	$ 50,000
					$ -
5	**Generator**				$ -
5.1	6,000 gal Fuel Tank	1	LS	$ 110,000	$ 110,000
5.2	Piping	1	LS	$ 3,500	$ 3,500
					$ -
6	**Chemical Room**				$ -
6.1	2+1 Metering Pump Skid	1	LS	$ 33,500	$ 33,500
6.2	Fill Station	1	LS	$ 8,000	$ 8,000
6.3	3,250 gal Storage Tank	1	LS	$ 24,500	$ 24,500
6.4	Sample Pumps	1	LS	$ 14,000	$ 14,000
					$ -
					$ -
					$ -
	Total				**$ 1,624,000**

WADE TRIM

ENGINEER'S OPINION OF CONSTRUCTION COST

PROJECT:	Peace River Pump Station and Storage	DATE:	01/04/22
LOCATION:	Sarasota County, FL	PROJECT NO.	PRM2021

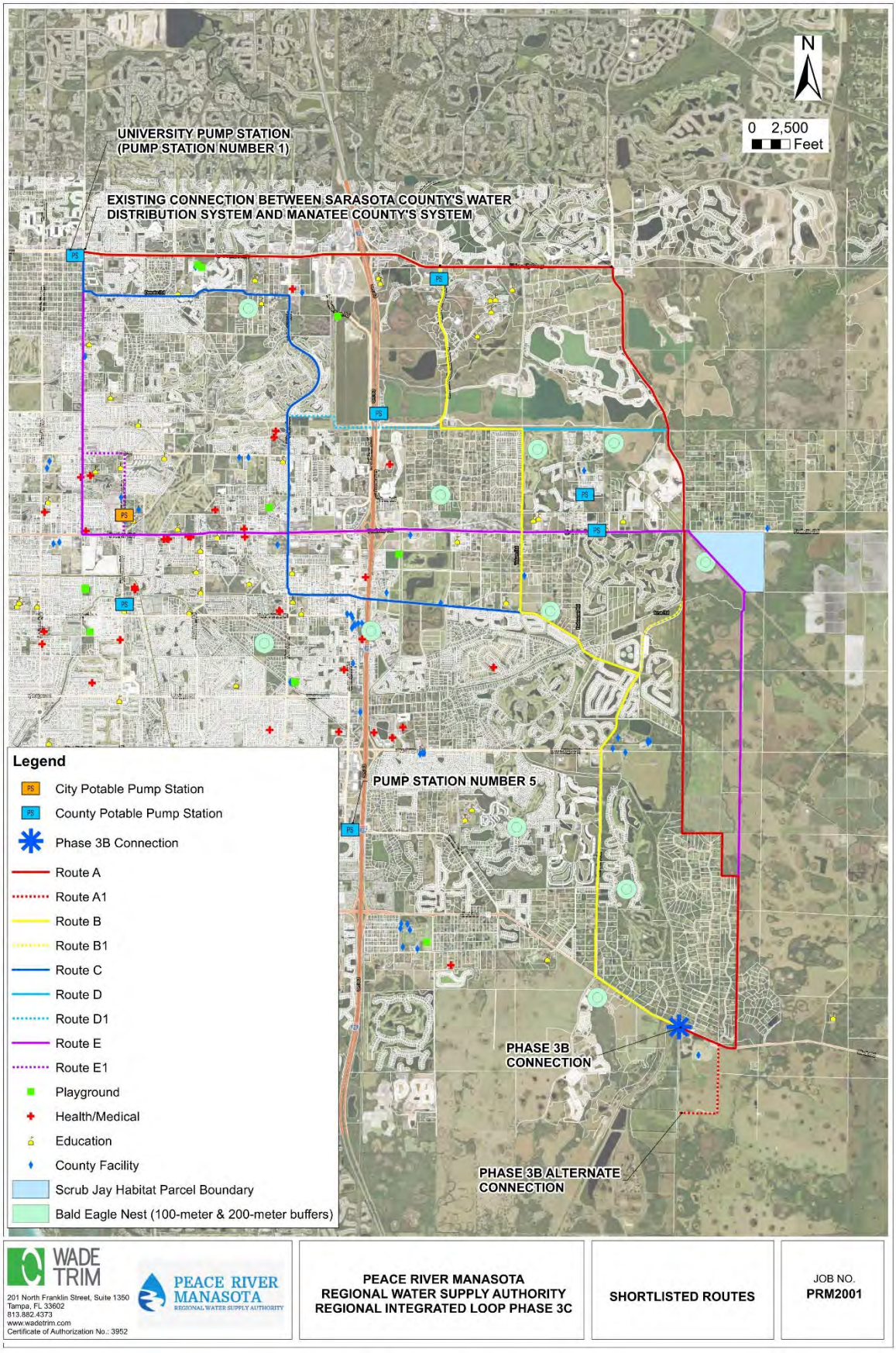
ENGINEER'S OPINION OF CONSTRUCTION COST

BASIS FOR ESTIMATE: [X] Conceptual [ ] 30% [ ] 60% [ ] 100%

WORK: Electrical

ITEM NO.	DESCRIPTION	QUANT.	UNIT	UNIT AMOUNT	TOTAL AMOUNT
1	**Admin Building**				$ -
1.1	Electrical	1	LS	$ 50,000	$ 50,000
					$ -
2	**Site Work**				$ -
2.1	Site Electrical	1	LS	$ 200,000	$ 200,000
					$ -
3	**5 MG Storage Tanks**				$ -
3.1	Electrical	1	LS	$ 15,000	$ 15,000
					$ -
4	**Generator**				$ -
4.1	Generator	1	LS	$ 182,000	$ 182,000
4.2	15 KVA Transformer	1	LS	$ 7,000.00	$ 7,000
					$ -
5	**Electrical Room**				$ -
5.1	120 HP VFDs	5	EA	$ 60,000	$ 300,000
5.2	MCCs	2	EA	$ 67,000.00	$ 134,000
5.3	Switchgear	1	LS	$ 70,000.00	$ 70,000
5.4	25 KVA Transformer	1	LS	$ 8,000.00	$ 8,000
					$ -
6	**Chemical Room**				$ -
6.1	Analyzers	1	LS	$ 50,000	$ 50,000
6.2	Electrical	1	LS	$ 13,000.00	$ 13,000
					$ -
					$ -
	Total				**$ 1,029,000**

Appendix C.
Environmental Features Map


N
0 2,500
Feet
UNIVERSITY PUMP STATION
(PUMP STATION NUMBER 1)
EXISTING CONNECTION BETWEEN SARASOTA COUNTY'S WATER
DISTRIBUTION SYSTEM AND MANATEE COUNTY'S SYSTEM
PUMP STATION NUMBER 5
PHASE 3B
CONNECTION
PHASE 3B ALTERNATE
CONNECTION
Legend
City Potable Pump Station
County Potable Pump Station
Phase 3B Connection
Route A
Route A1
Route B
Route B1
Route C
Route D
Route D1
Route E
Route E1
Playground
Health/Medical
Education
County Facility
Scrub Jay Habitat Parcel Boundary
Bald Eagle Nest (100-meter & 200-meter buffers)
WADE TRIM
201 North Franklin Street, Suite 1350
Tampa, FL 33602
813.882.4373
www.wadetrim.com
Certificate of Authorization No.: 3952
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY
REGIONAL INTEGRATED LOOP PHASE 3C
SHORTLISTED ROUTES
JOB NO.
PRM2001

TAB D
Presentation Materials



Peace River Manasota
Regional Water Supply Authority

Phase 3C Pipeline Project

Feasibility and Routing Study
for the Regional Integrated Loop

April 6, 2022



1



01 Project Overview

02 Final Route Recommendation

03 Schedule & Approval

04 Interlocal Agreement

2



01 **Project Overview**

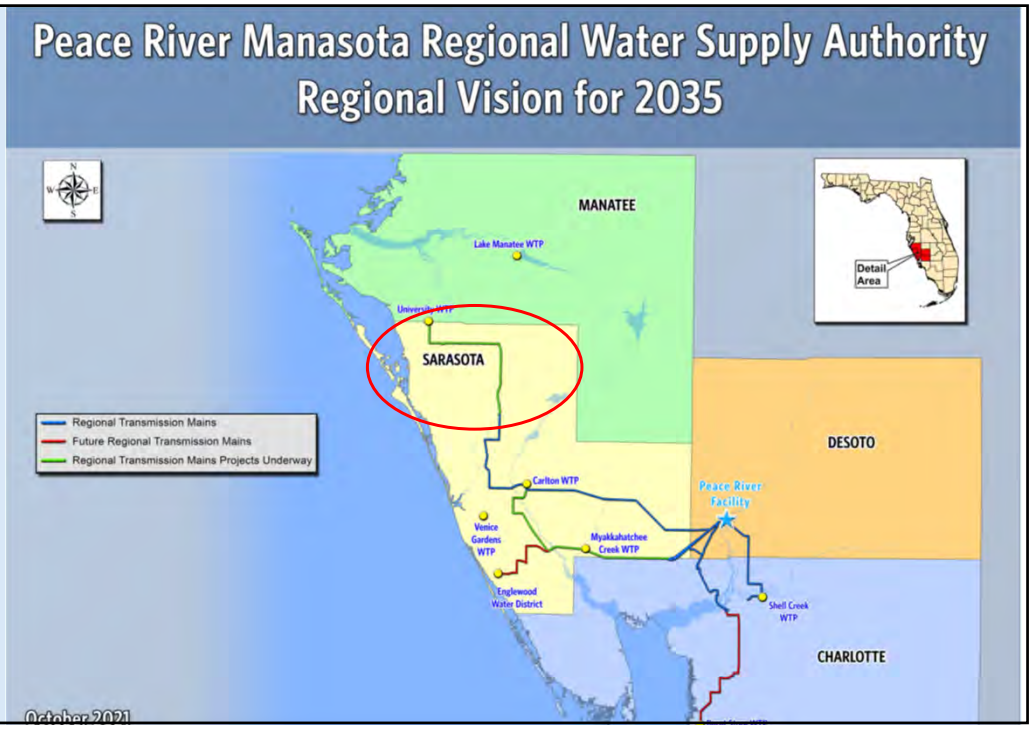
02 Final Route Recommendation

03 Schedule & Approval

04 Interlocal Agreement

3

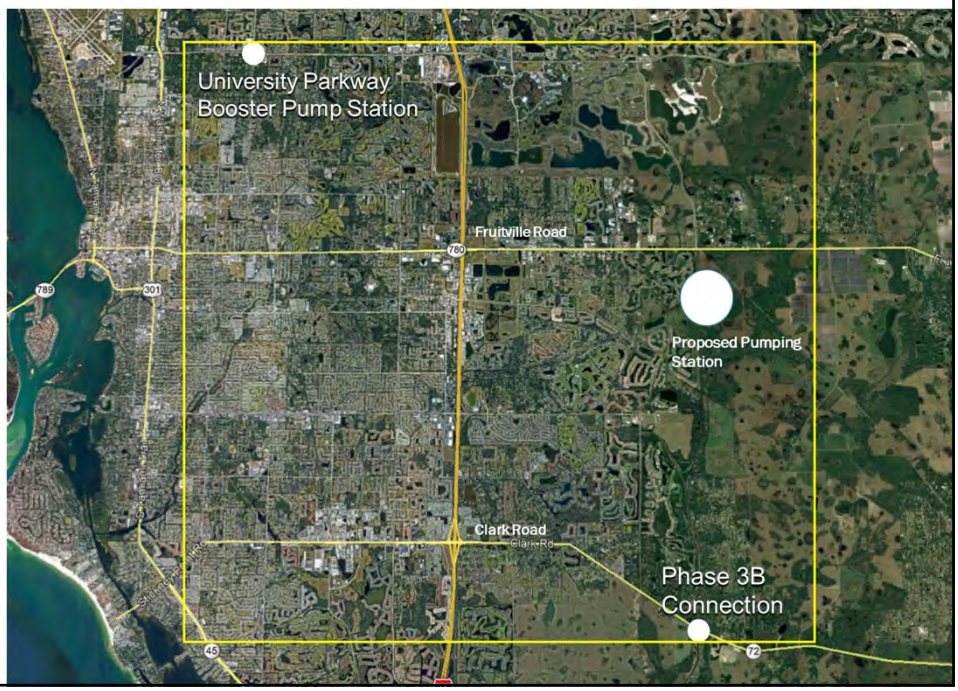
01 **Project Overview**



4

01 Project Overview

Phase 3C
Project Area



5

5

02 Project Overview

Phase 1

Clark Rd to Fruitville Rd/Blue Lake Rd

(Routes A1, B1, C1)

Phase 2

Fruitville Rd/Blue Lake Rd to Lockwood Ridge Rd

(Routes A2, B2, C2)



6



01 Project Overview

02 **Final Route Recommendation**

03 Schedule & Approval

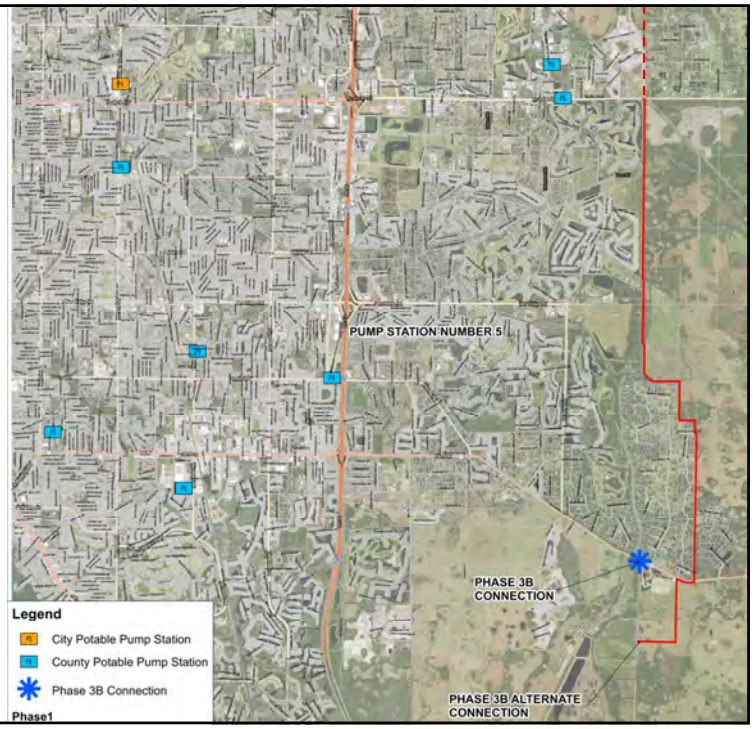
04 Interlocal Agreement

7

02 Feasibility and Routing Study Results

Phase 1 - Route A1

- Longest Route, Best Hydraulics
- Most required easement acquisition
- High environmental impacts
- Low Public Disruption



8

02 Feasibility and Routing Study Results

Phase 1- Route B1

- Shorter Route
- Moderate required easement acquisition
- Better long-range planning

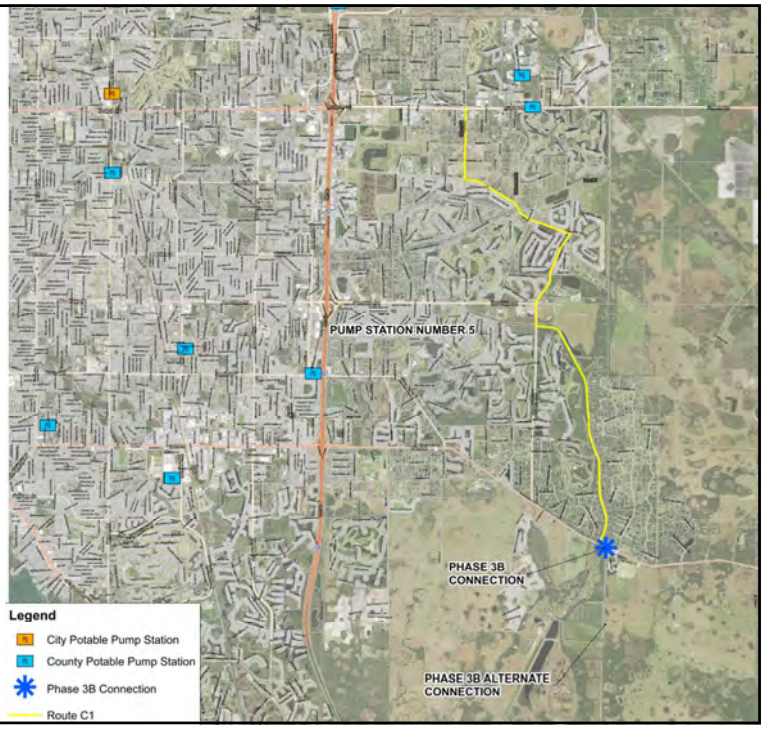


9

02 Feasibility and Routing Study Results

Phase 1- Route C1

- Phase 1 End Point too far West
- High utility congestion
- Less favorable for Sarasota County purposes



10

02 Route Selection Process

Criteria and Weighting Factors	Example Impacts
Constructability – 15%	• Pipeline length • Pipe corridor infrastructure congestion
Public Impacts – 5%	• Traffic congestion and lane closures • Public inconvenience during construction
Safety – 15%	• Construction crew and pedestrian safety
Operation and Maintenance Considerations – 20%	• Number of valves and air release valves required
Consistency with Long Range Planning – 15%	• Regional water supply and resiliency goals • Consistency with regional comprehensive plans
Environmental and Permitting Complexities – 10%	• Permitting • Critical habitat or endangered species
Land Requirements – 10%	• Easements • Property acquisition
Impacts to Cultural Resources – 10%	• Known historical and archeological sites from public data bases

11

02 Route Selection Process

Loop Phase 3C, Feasibility and Routing Study

Route Ranking Summary
March 2022

Evaluation Criteria	Avg Weighting Factor	Route A1 Rank	Route A1 Score	Route B1 Rank	Route B1 Score	Route C1 Rank	Route C1 Score
1-Constructability	**20.00%**	3.00	0.600	4.00	0.800	4.00	0.800
2-Public Impacts	**5.00%**	5.00	0.250	4.00	0.200	3.00	0.150
3-Safety	**10.00%**	2.00	0.200	4.00	0.400	3.00	0.300
4-Operations & Maintenance	**20.00%**	2.00	0.400	4.00	0.800	3.00	0.600
5-Consistency with Long Range Planning	**20.00%**	2.00	0.400	4.00	0.800	3.00	0.600
6-Environmental and Permitting	**10.00%**	2.00	0.200	4.00	0.400	5.00	0.500
7-Land Requirement	**10.00%**	1.00	0.100	3.00	0.300	5.00	0.500
8-Impacts to Cultural Resources	**5.00%**	5.00	0.250	5.00	0.250	5.00	0.250
Totals	**100%**		**2.400**		**3.950**		**3.700**

Rank - Scale of 1 to 5, with 5 being the best

12

02 Recommended Phase 1 Route Alternative

Phase 1- Route B1

- Shorter Route
- Moderate required easement acquisition
- Better long-range planning



13

02 Recommended Phase 1 Route Alternative

It is recommended the Authority proceed with construction of the Phase 1 facilities including Route B1 (approx. 48,156 LF of 42-inch water transmission main), the pumping station, at least 5 MG of ground storage (10 MG ultimate) and associated site facilities including electrical equipment, generator, chemical injection, administrative building, stormwater system, driveway and parking, site utilities.



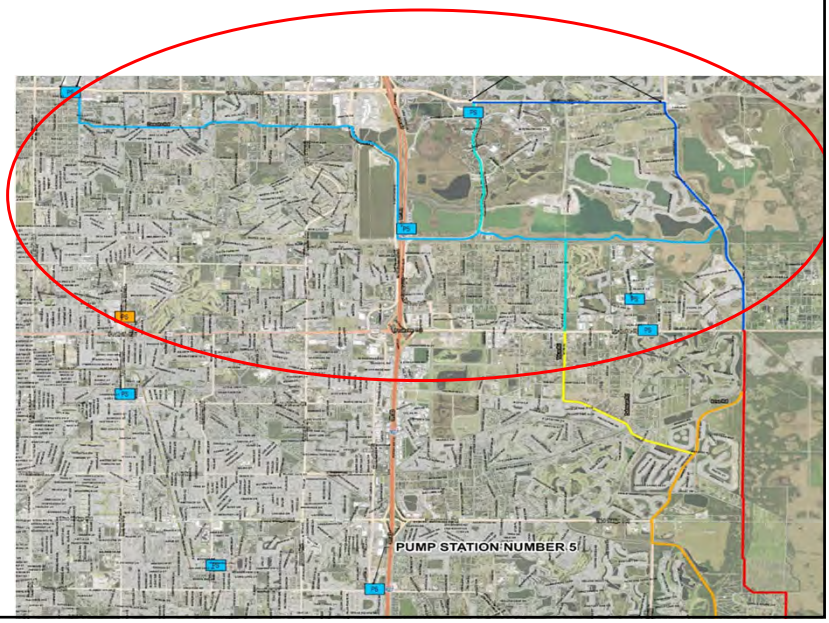
14

02 Recommended Phase 2 Route Alternatives

Phase 2

Fruitville Rd/Blue Lake Rd to Lockwood Ridge Rd

(Routes A2, B2, C2)



15

02 Recommended Phase 2 Route Alternatives

Route A2

- Simple, no required easement acquisition
- Hits 2 interconnects between Counties
- Does not deliver to Lockwood Ridge (Univ. PS)

Route B2

- Avoids University Parkway
- Delivers emergency Flows to LWR Interconnect (water quality challenge)
- Delivers normal and emergency flows to Univ. PS
- Clever Option resolves WQ challenge and can defer need for western most leg

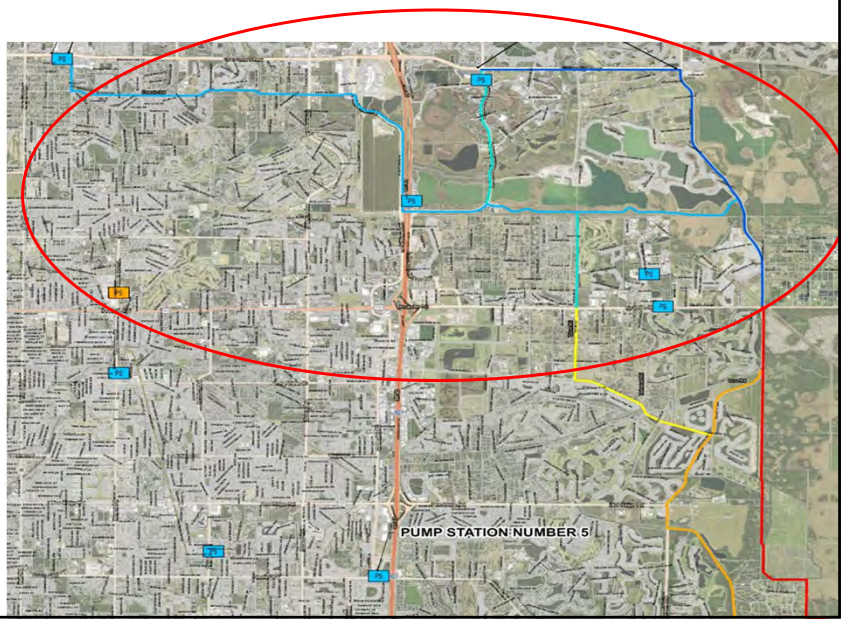
Route C2

- Avoids University Parkway
- Delivers emergency Flows to LWR Interconnect (water quality challenge)
- Delivers normal and emergency flows to Univ. PS
- Too far west of Authority's PS & Storage Site

16

02 Recommended Phase 2 Route Alternatives

Phase 2 recommended facilities include either **Routes A2, B2 or C2** of 42-inch and 36-inch water transmission main to the Point of Connection to Manatee County at University Parkway and Lakewood Ranch Boulevard and/or Lockwood Ridge Rds.



17

02 Route Selection Process

Alternative Route	Comparative Cost	Non-Cost Criteria Ranking
Phase 1 Route A1*	$64,196,000	2.40
Phase 1 Route B1*	$49,612,000	3.95
Phase 1 Route C1*	$46,839,000	3.70
Phase 2 Route A2	$17,010,000	Not ranked
Phase 2 Route B2	$26,429,000	Not ranked
Phase 2 Route C2	$42,195,000	Not ranked

*Includes Pumping Station costs

18



01 Project Overview

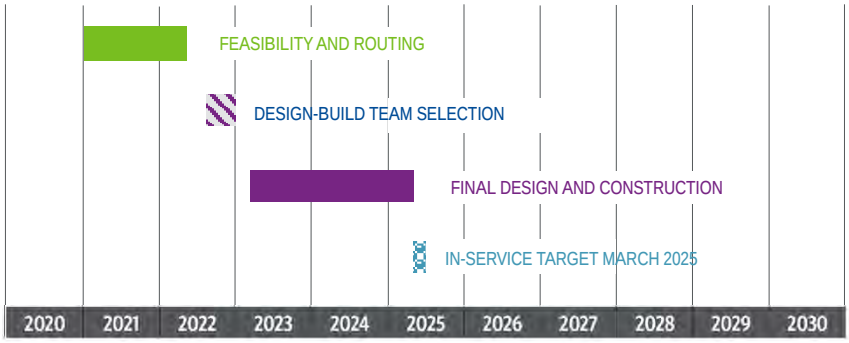
02 Final Route Recommendation

03 **Schedule & Approval**

04 Interlocal Agreement

19

03 Next Steps and Schedule



Pipeline in service by 2025

- Feasibility and Routing Study Final Report and Board Approval
- Progressive Design-Build Team Selection Process
- Final Design and Construction w completion Spring 2025
- Execute Interlocal Agreement with Sarasota County

20

04 Motion and Resolution of Necessity

Motion:

To approve the recommended pipeline route B-1 for Phase 1 of the Project, as identified by in the Feasibility and Routing Study for the Regional Integrated Loop Phase 3C Pipeline and,

to approve RESOLUTION NO. 2022-03, "A RESOLUTION DETERMINING THE NECESSITY TO CONSTRUCT A TRANSMISSION PIPELINE AND APPURTENANT FACILITIES AND ROUTE SELECTION FOR A PROJECT KNOWN AS THE REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE PROJECT WHICH INCLUDES THE INSTALLATION OF A PUMPING AND STORAGE FACILITY AND A 42-INCH DIAMETER PIPELINE BETWEEN STATE ROAD 72 AND THE INTERSECTION OF LORRAINE ROAD AND BLUE-LAKE ROAD."

21



01 Project Overview

02 Feasibility and Routing Study Update

03 Next Steps and Schedule

04 **Interlocal Agreement**

22

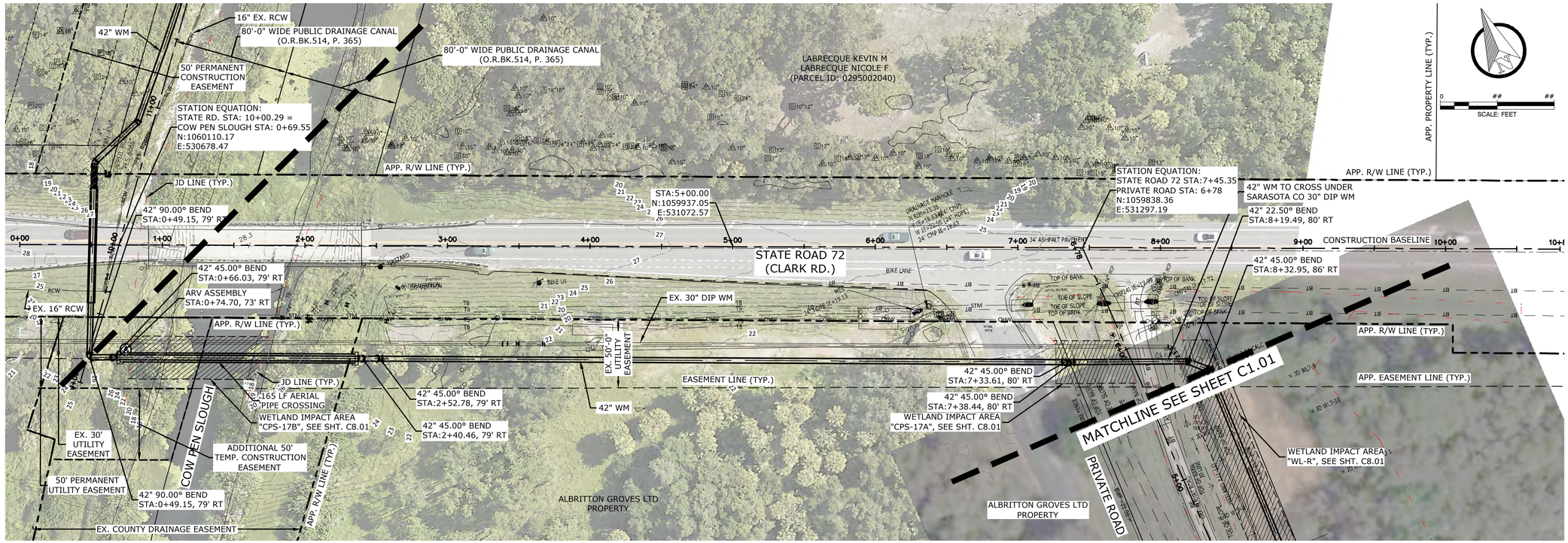
04 Interlocal Agreement

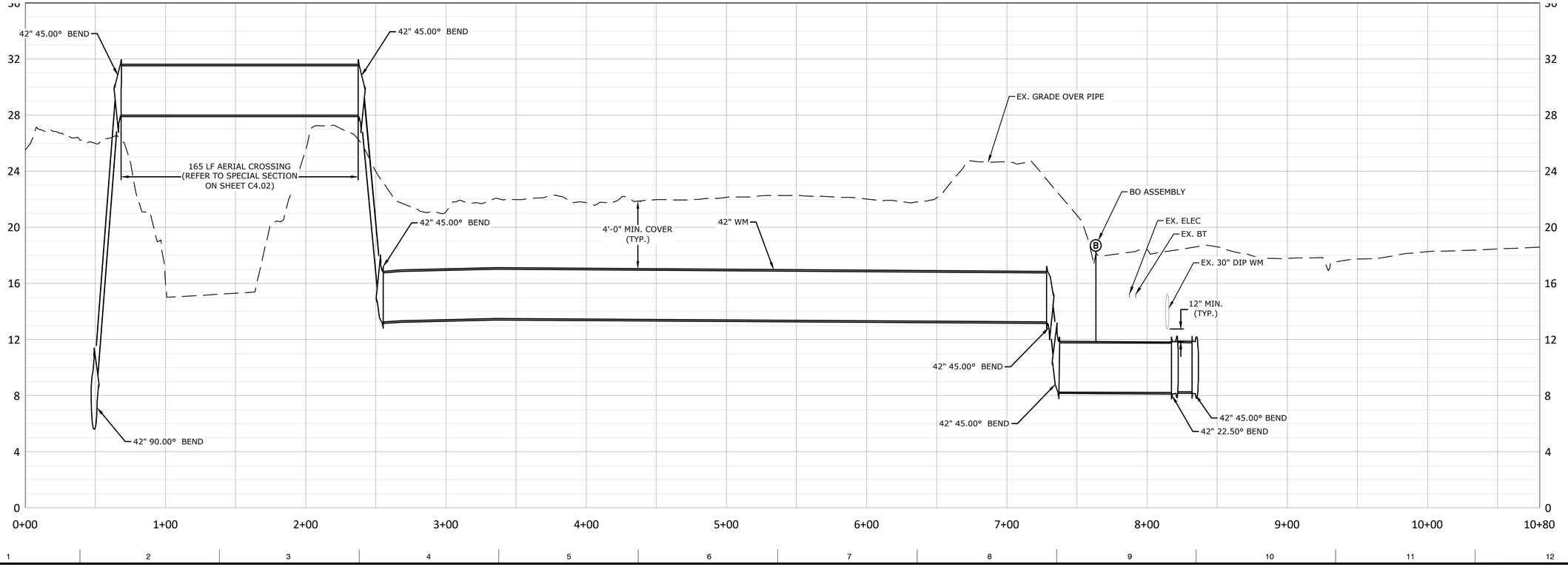
Motion: to approve Interlocal Agreement for Regional Integrated Loop System Phase 3C Interconnect between the Peace River Manasota Regional Water Supply Authority and Sarasota County.

23

TAB D
AMENDED RESOLUTION NO. 2022-03 EXHIBIT 2

January 30, 2023 C:\Users\mgilatbach\ACCDocs\Ardurra, Inc\2022-1167-PRPHSC Project Files\03-Production\03-Dwgs\PLN-C1-PP.dwg





Peace River Manasota Regional Water Supply Authority
PEACE RIVER/MANASOTA REGIONAL WATER SUPPLY AUTHORITY
9415 TOWN CENTER PARKWAY
LAKEWOOD RANCH, FL 34202

Garney CONSTRUCTION
370 E. Crown Point Road
Winter Garden, FL 34787
Phone (407) 877-5903
Fax (407) 877-5912

ARDURRA
COLLABORATE. INNOVATE. CREATE.
One Memorial Center, Suite 300
Tampa, Florida 33634
Phone: (813) 880-8881
www.Ardurra.com
License #2610

WADE TRIM
One Tampa City Center
201 N Franklin St, Suite 1350
Tampa, FL 33602
Phone: (813) 882-4373
www.wadetrim.com

NO.	DATE	REVISION	BY

REGIONAL INTEGRATED LOOP PHASE 3C PIPELINE

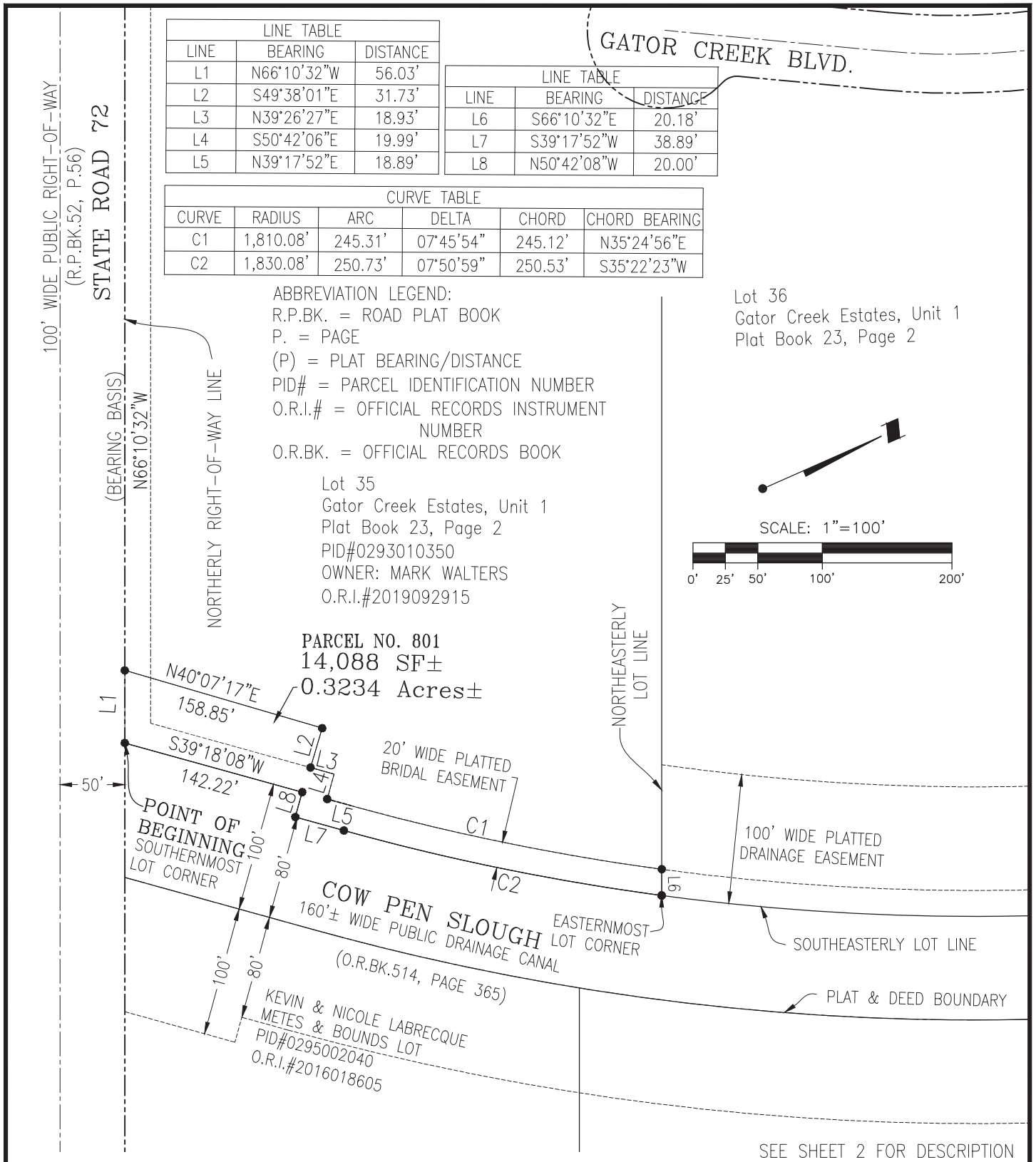
COWPEN SLOUGH PLAN AND PROFILE STA. 10+80 THRU STA.3+00

JOB NO: 0111-00304-2022-1167-00

C1.02

60% SUBMITTAL 1/30/23

TAB E
AMENDED RESOLUTION NO. 2022-03 EXHIBIT 3



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N66°10'32"W	56.03'
L2	S49°38'01"E	31.73'
L3	N39°26'27"E	18.93'
L4	S50°42'06"E	19.99'
L5	N39°17'52"E	18.89'

LINE TABLE		
LINE	BEARING	DISTANCE
L6	S66°10'32"E	20.18'
L7	S39°17'52"W	38.89'
L8	N50°42'08"W	20.00'

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	1,810.08'	245.31'	07°45'54"	245.12'	N35°24'56"E
C2	1,830.08'	250.73'	07°50'59"	250.53'	S35°22'23"W

SEE SHEET 2 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Feb 23, 2023 – 10:49:48 BCUNNINGHAM|U:\177311750\drawings\survey\drawing\177311750v-spsk02.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 35, GATOR CREEK, UNIT 1, P.B. 23, P. 2., INSECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

Stantec
6920 Professional Parkway East, Sarasota, FL 34240-8414
Phone 941-907-6900 · · Fax 941-907-6910
Certificate of Authorization #27013 · · www.stantec.com
Licensed Business Number 7866

PARCEL NO. 801

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk02	177311750	1 OF 2	177311750v-spsk02	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A strip of land lying in Lot 35, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida and being in Section 22, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

BEGIN at the most southerly corner of said Lot 35, also being a point on the northerly right-of-way line of State Road 72 (100.00 foot wide public right-of-way) as recorded in Road Plat Book 52, Page 56 in said Public Records; thence N.66°10'32"W., along said northerly right-of-way line, a distance of 56.03 feet; thence N.40°07'17"E., a distance of 158.85 feet; thence S.49°38'01"E., a distance of 31.73 feet; thence N.39°26'27"E., a distance of 18.93 feet; thence S.50°42'06"E., a distance of 19.94 feet; thence N39°17'52"E., a distance of 18.89 feet to the point of curvature of a non-tangent curve to the left, having a radius of 1,810.08 feet and a central angle of 07°45'54"; thence northeasterly along the arc of said curve, a distance of 245.31 feet, said curve having a chord bearing and distance of N.35°24'56"E., 245.12 feet, to a point on the northeasterly line of said Lot 35; thence S.66°10'32"E., along said northeasterly lot line, a distance of 20.18 feet to the most easterly corner of said Lot 35, also being the point of curvature of a non-tangent curve to the right, having a radius of 1,830.08 feet and a central angle of 07°50'59"; thence along the southeasterly line of said Lot 35 for the following four (4) calls: (1) thence southwesterly along the arc of said curve, a distance of 250.73 feet, said curve having a chord bearing and distance of S.35°22'23"W., 250.53 feet, to the point of tangency of said curve; (2) thence S.39°17'52"W., a distance of 38.89 feet; (3) thence N.50°42'08"W., a distance of 20.00 feet; (4) thence S.39°18'08"W., a distance of 142.22 feet to the POINT OF BEGINNING.

Said strip contains 14,088 square feet or 0.3234 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE NORTH RIGHT-OF-WAY LINE OF S.R.72, BEING N.66°10'32"W. PER PLAT.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 06:50:53 -05'00'

03/09/2023

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

Date of Signature

SEE SHEET 1 FOR SKETCH

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Feb 23, 2023 – 10:49:48 BCUNNINGHAM|U:\177311750\drawings\survey\drawing\177311750v-spsk02.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 35, GATOR CREEK, UNIT 1, P.B. 23, P. 2., IN SECTION 22, TOWNSHIP 37 S., RANGE 19 E. SARASOTA COUNTY, FLORIDA

Stantec
6920 Professional Parkway East, Sarasota, FL 34240-8414
Phone 941-907-6900 · · *Fax* 941-907-6910
Certificate of Authorization #27013 · · www.stantec.com
Licensed Business Number 7866

PARCEL NO. 801

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk02	177311750	2 OF 2	177311750v-spsk02	

LINE TABLE		
LINE	BEARING	DISTANCE
L4	N66°10'32"W	20.18'
L5	S39°17'52"W	18.89'
L6	N50°42'08"W	19.99'
L7	S39°26'27"W	18.93'
L8	N49°38'01"W	10.41'
L9	S66°10'32"E	30.32'

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	1,810.08'	245.31'	07°45'54"	245.12'	S35°24'56"W
C2	1,780.08'	274.81'	08°50'43"	274.54'	N36°05'11"E

GATOR CREEK BLVD.

100' WIDE PUBLIC RIGHT-OF-WAY
(R.P.BK.52, P.56)
STATE ROAD 72

(BEARING BASIS)
N66°10'32"W

NORTHERLY RIGHT-OF-WAY LINE

ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK

Lot 35
Gator Creek Estates, Unit 1
Plat Book 23, Page 2
PID#0293010350
OWNER: MARK WALTERS
O.R.I.#2019092915

Lot 36
Gator Creek Estates, Unit 1
Plat Book 23, Page 2

SCALE: 1"=100'
0' 25' 50' 100' 200'

NORTHEASTERLY LOT LINE

PARCEL NO. 701
7,998 SF±
0.1836 Acres±

PROPOSED WATER MAIN EASEMENT

POINT OF BEGINNING

L7
L6
L5
C2
C1
30.00'
L9
L4

100'
80'
100'
80'

100' WIDE PLATTED DRAINAGE EASEMENT

COW PEN SLOUGH
160'± WIDE PUBLIC DRAINAGE CANAL
(O.R.BK.514, PAGE 365)

20' WIDE PLATTED BRIDAL EASEMENT

SOUTHEASTERLY LOT LINE

PLAT & DEED BOUNDARY

KEVIN & NICOLE LABRECQUE
METES & BOUNDS LOT
PID#0295002040
O.R.I.#2016018605

POINT OF COMMENCEMENT
EASTERNMOST LOT CORNER

REV. "A": REVISING WATER MAIN EASEMENT & NOTES'; 3-28-23; JJL

SEE SHEET 2 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 28, 2023 - 11:36:26 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk02.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 35, GATOR CREEK, UNIT 1, P.B. 23, P. 2 IN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

Stantec
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2.5	JWB	RRC	177311750v-spsk02	177311750	1 OF 2	177311750v-spsk02	A

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A strip of land lying in Lot 35, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida and being in Section 22, Township 37 South, Range19 East, Sarasota County, Florida, being more particularly described as follows:

COMMENCE at the easternmost corner of said Lot 35; thence N.66°10'32"W., along the northeasterly line of said Lot 35, a distance of 20.18 feet to the POINT OF BEGINNING, said point being the point of curvature of a non-tangent curve to the right, having a radius of 1,810.08 feet and a central angle of 07°45'54"; thence southwesterly along the arc of said curve, a distance of 245.31 feet, said curve having a chord bearing and distance of S.35°24'56"W., 245.12 feet; thence S.39°17'52"W., a distance of 18.89 feet; thence N.50°42'08"W., a distance of 19.99 feet, thence S.39°26'27"W., a distance of 18.93 feet, thence N.49°38'01"W., a distance of 10.41 feet to the point of curvature of a non-tangent curve to the left, having a radius of 1,780.08 feet and a central angle of 08°50'43"; thence northeasterly along the arc of said curve, a distance of 274.81 feet, said curve having a chord bearing and distance of N.36°05'11"E., 274.54 feet, to a point on the northeasterly line of said Lot 35; thence S.66°10'32"E., along said northeasterly lot line, a distance of 30.32 feet to the POINT OF BEGINNING.

Said strip contains 7,998 square feet or 0.1836 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE NORTH RIGHT-OF-WAY LINE OF S.R.72, BEING N.66°10'32"W. PER PLAT.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.29 18:05:05 -04'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/29/2023
Date of Signature

SEE SHEET 1 FOR SKETCH

REV. "A": REVISING WATER MAIN EASEMENT & NOTES'; 3-28-23; JJL
FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

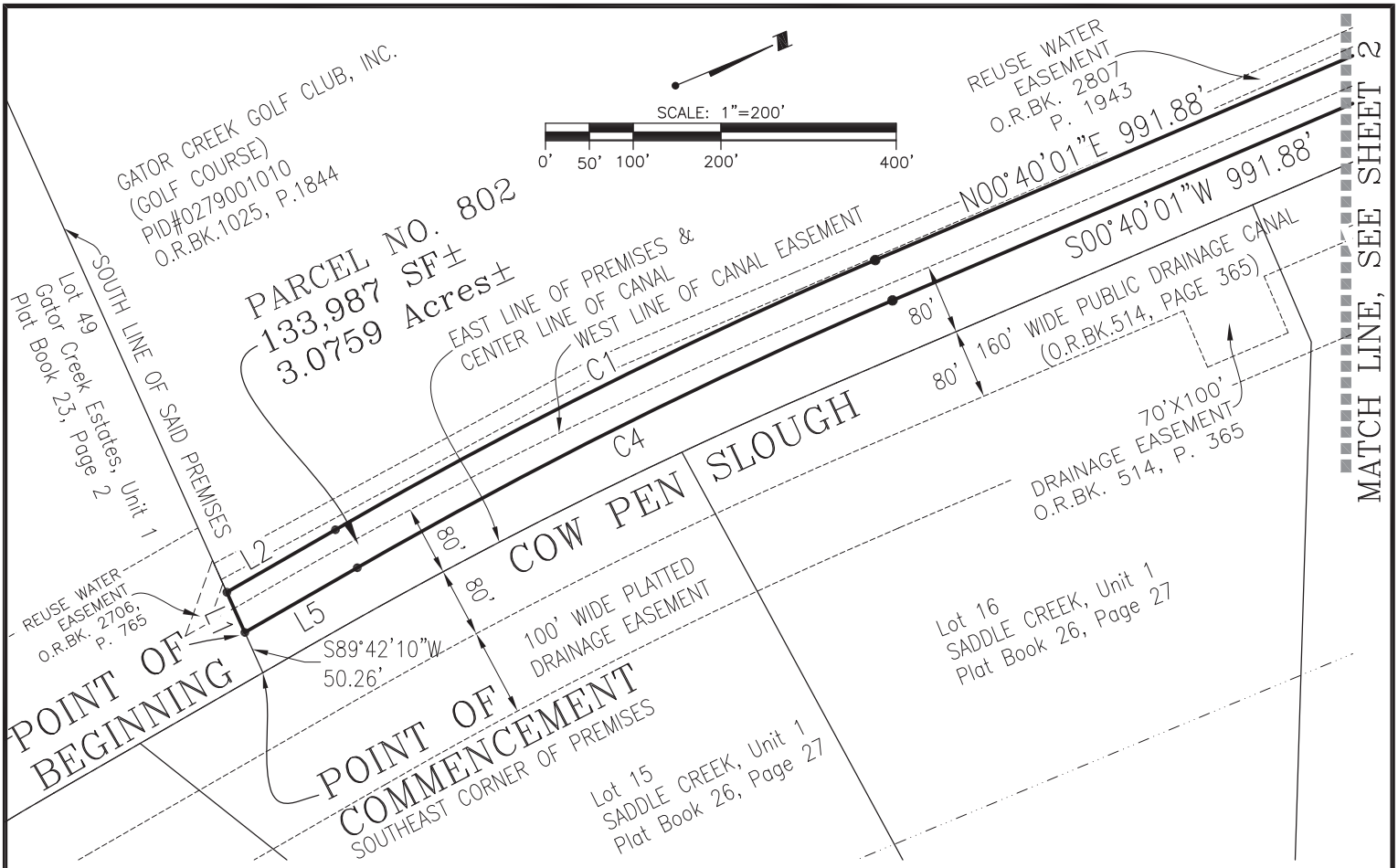
Mar 28, 2023 - 11:36:26 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk02.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 35, GATOR CREEK, UNIT 1, P.B. 23, P. 2 IN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 701

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk02	177311750	2 OF 2	177311750v-spsk02	A



ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	5,828.00'	688.32'	06°46'01"	687.92'	N02°42'59"W
C2	1,353.35'	509.18'	21°33'25"	506.19'	N10°06'41"W
C3	1,403.35'	528.00'	21°33'25"	524.89'	S10°06'41"E
C4	5,778.00'	682.41'	06°46'01"	682.02'	S02°42'59"E

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S89°42'10"W	50.26'
L2	N06°06'00"W	142.79'
L3	S88°38'38"E	54.02'
L5	S06°06'00"E	147.88'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE EAST LINE OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 26, BEING S.00°09'29"E.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

SEE SHEETS 1–2 FOR SKETCH
SEE SHEET 1 FOR CURVE & LINE TABLES
SEE SHEET 3 FOR DESCRIPTION

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 06:53:40 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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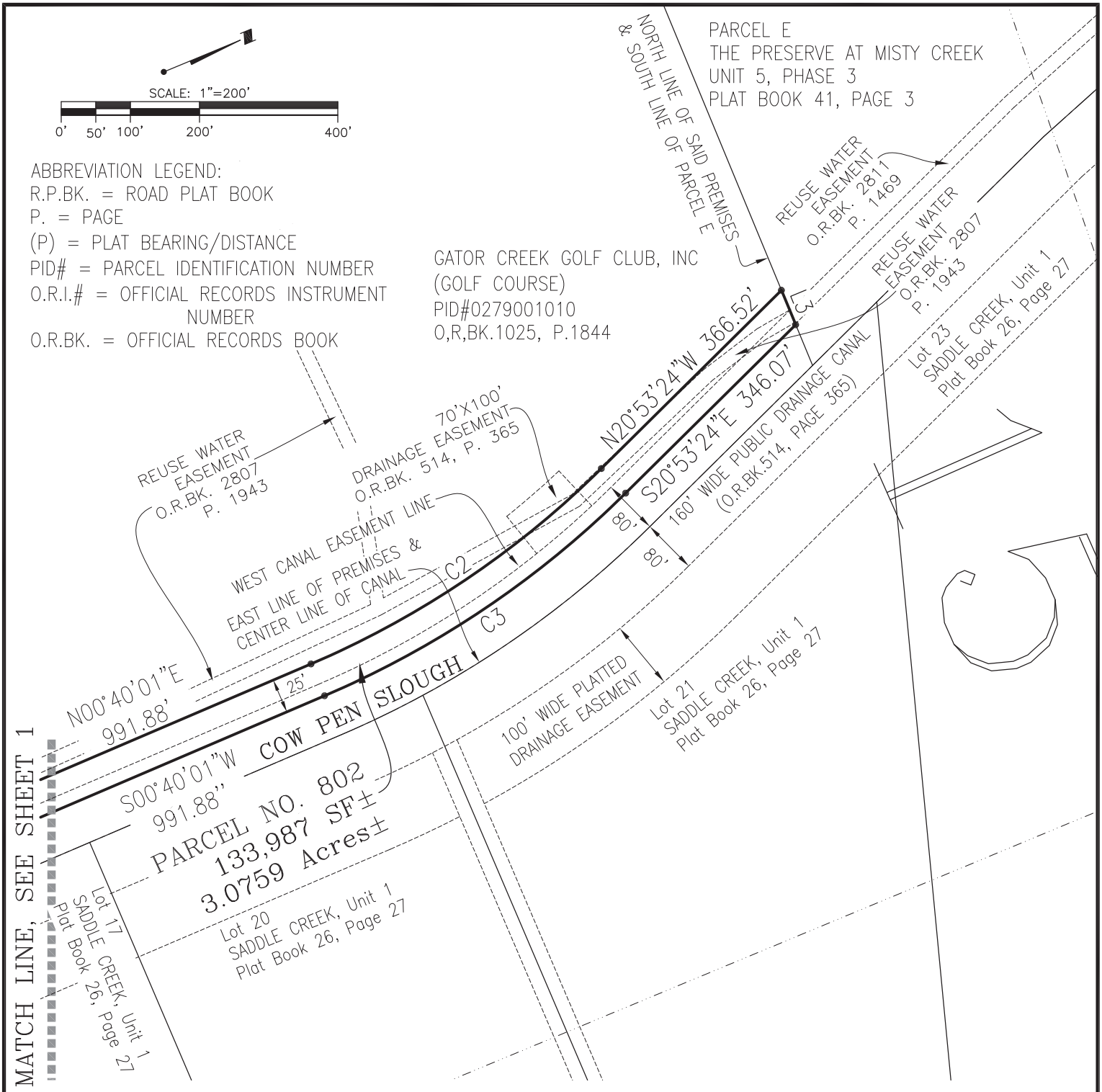
Mar 06, 2023 – 08:46:07 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v–spsk03.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN GATOR CREEK GOLF CLUB LYING IN SECTION 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 802

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v–spsk03	177311750	1 OF 3	177311750v–spsk03	



SEE SHEETS 1-2 FOR SKETCH
SEE SHEET 1 FOR CURVE & LINE TABLES
SEE SHEET 3 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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Mar 06, 2023 - 08:46:07 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk03.dwg

SKETCH & DESCRIPTION OF A WATER MAIN EASEMENT IN GATOR CREEK GOLF CLUB LYING IN SECTION 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 802

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk03	177311750	2 OF 3	177311750v-spsk03	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A tract of land lying in the Gator Creek Golf Club, Incorporated property as recorded in Official Records Book 1025, Page 1844 in the Public Records of Sarasota County, Florida and being in Sections 15, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

Commence at the southeast corner of said premises; thence S.89°42'10"W., along the south line of said premises, a distance of 50.26 feet to the POINT OF BEGINNING; thence continue S.89°42'10"W., along said south premises line, a distance of 50.26 feet; thence N.06°06'00"W., a distance of 142.79 feet to the point of curvature of a curve to the right, having a radius of 5,828.00 feet and a central angle of 06°46'01"; thence northerly along the arc of said curve, a distance of 688.32 feet to the point of tangency of said curve; thence N.00°40'01"E., a distance of 991.88 feet to the point of curvature of a curve to the left having a radius of 1,353.35 feet and a central angle of 21°33'25"; thence northerly along the arc of said curve, a distance of 509.18 feet to the point of tangency of said curve; thence N.20°53'24"W., a distance of 366.52 feet to a point on the north line of said premises; thence S.88°38'38"E., along said north premises line, a distance of 54.02 feet; thence S.20°53'24"E., a distance of 346.07 feet to the point of curvature of a curve to the right having a radius of 1,403.35 feet and a central angle of 21°33'25"; thence southerly along the arc of said curve, a distance of 528.00 feet to the point of tangency of said curve; thence S.00°40'01"W., a distance of 991.88 feet to the point of curvature of a curve to the left having a radius of 5,778.00 feet and a central angle of 06°46'01"; thence southerly along the arc of said curve, a distance of 682.41 feet to the point of tangency of said curve; thence S.06°06'00"E., a distance of 147.88 feet to the POINT OF BEGINNING.

Said tract contains 133,987 square feet or 3.0759 acres, more or less.

SEE SHEETS 1–2 FOR SKETCH
SEE SHEET 1 FOR CURVE & LINE TABLES
SEE SHEET 3 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY **This is NOT a Survey and Not valid without all sheets.**

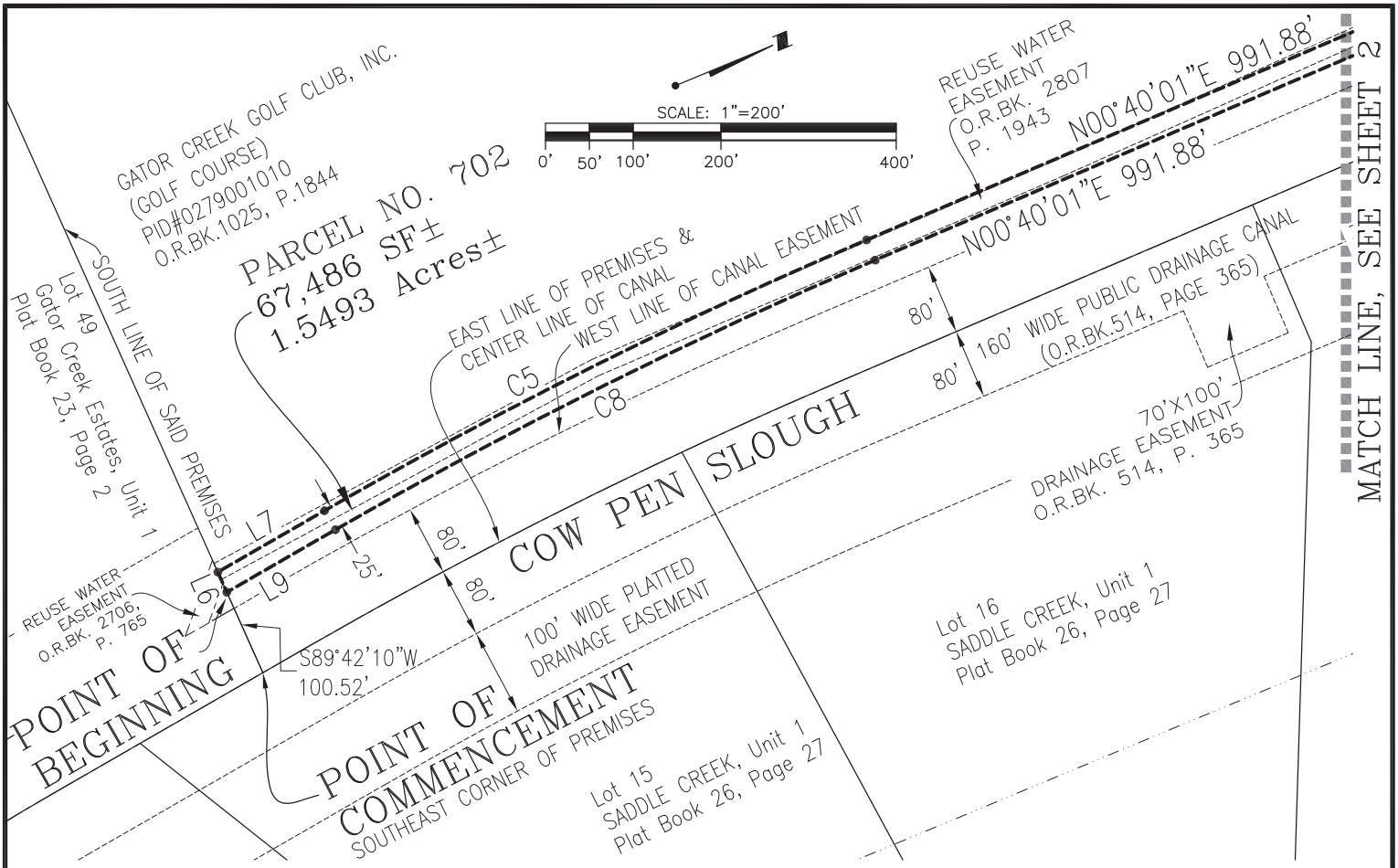
Mar 06, 2023 – 08:46:07 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v–spsk03.dwg

SKETCH & DESCRIPTION OF A WATER MAIN EASEMENT IN GATOR CREEK GOLF CLUB LYING IN SECTION 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 802

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v–spsk03	177311750	3 OF 3	177311750v–spsk03	



ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK

LINE TABLE		
LINE	BEARING	DISTANCE
L6	S89°42'10"W	25.13'
L7	N06°06'00"W	140.25'
L8	S88°38'38"E	27.01'
L9	S06°06'00"E	142.79'

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C5	5,853.00'	691.27'	06°46'01"	690.87'	N02°42'59"W
C6	1,328.35'	499.78'	21°33'25"	496.84'	N10°06'41"W
C7	1,353.35'	509.18'	21°33'25"	506.19'	S10°06'41"E
C8	5,828.00'	688.32'	06°46'01"	687.92'	S02°42'59"E

SEE SHEETS 1-2 FOR SKETCH
SEE SHEET 1 FOR CURVE & LINE TABLES
SEE SHEET 3 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

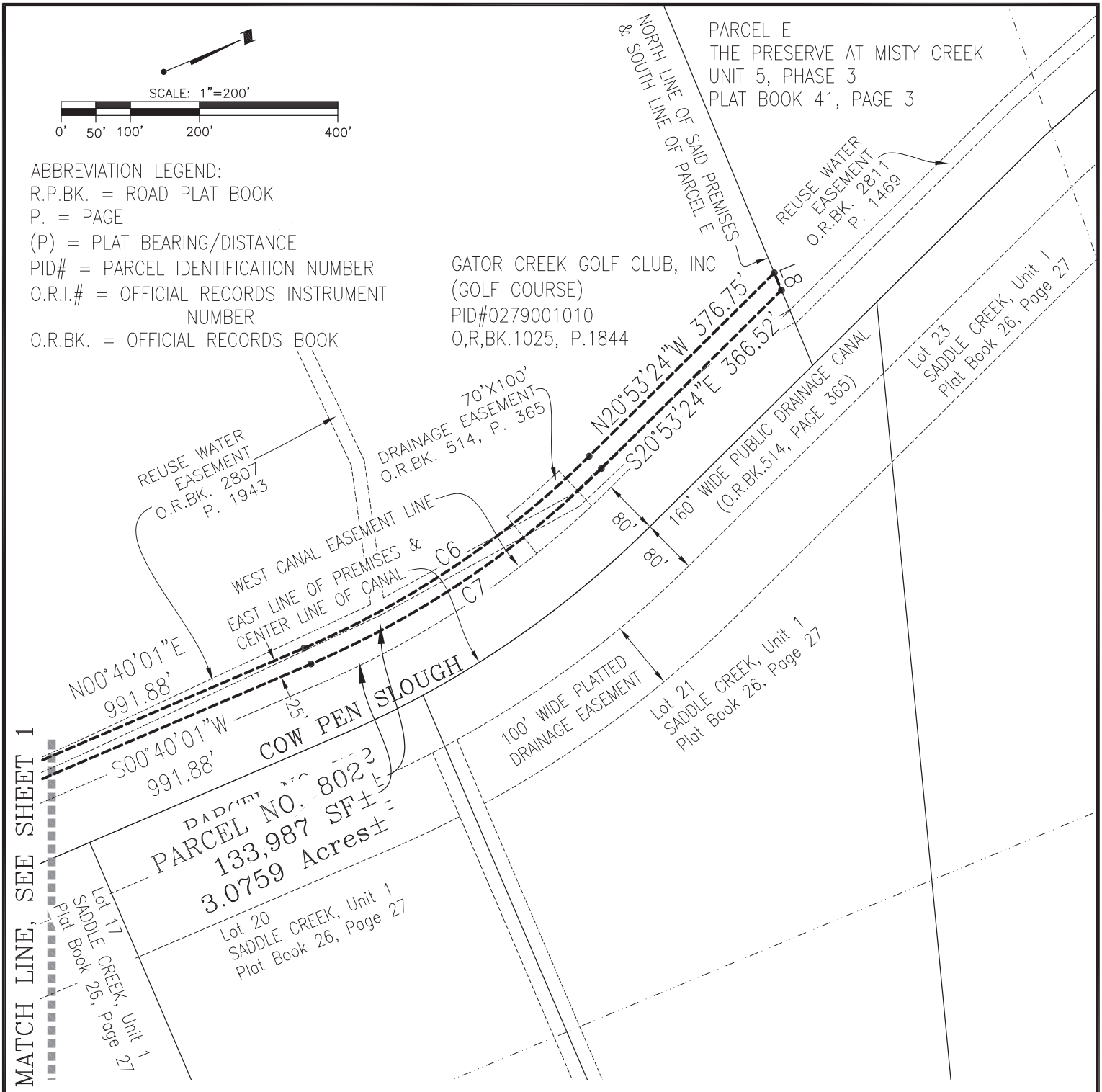
Mar 06, 2023 - 09:03:44 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk03.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN GATOR CREEK GOLF CLUB LYING IN SECTION 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 702

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk03	177311750	1 OF 3	177311750v-spsk03	



SEE SHEETS 1-2 FOR SKETCH
SEE SHEET 1 FOR CURVE & LINE TABLES
SEE SHEET 3 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 06, 2023 - 09:03:44 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk03.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN GATOR CREEK GOLF CLUB LYING IN SECTION 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 702

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk03	177311750	2 OF 3	177311750v-spsk03	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A tract of land lying in the Gator Creek Golf Club, Incorporated property as recorded in Official Records Book 1025, Page 1844 in the Public Records of Sarasota County, Florida and being in Sections 15, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

Commence at the southeast corner of said premises; thence S.89°42'10"W., along the south line of said premises, a distance of 100.52 feet to the POINT OF BEGINNING; thence continue S.89°42'10"W., along said south line of premises, a distance of 25.13 feet; thence N.06°06'00"W., a distance of 140.25 feet to the point of curvature of a curve to the right, having a radius of 5,853.00 feet and a central angle of 06°46'01"; thence northerly along the arc of said curve, a distance of 691.27 feet to the point of tangency of said curve; thence N.00°40'01"E., a distance of 991.88 feet to the point of curvature of a curve to the left having a radius of 1,328.35 feet and a central angle of 21°33'25"; thence northerly along the arc of said curve, a distance of 499.78 feet to the point of tangency of said curve; thence N.20°53'24"W., a distance of 376.86 feet to a point on the north line of said premises; thence S.88°38'38"E., along said north premises line, a distance of 27.01 feet; thence S.20°53'24"E., a distance of 366.63 feet to the point of curvature of a curve to the right having a radius of 1,353.35 feet and a central angle of 21°33'25"; thence southerly along the arc of said curve, a distance of 509.18 feet to the point of tangency of said curve; thence S.00°40'01"W., a distance of 991.88 feet to the point of curvature of a curve to the left having a radius of 5,828.00 feet and a central angle of 06°46'01"; thence southerly along the arc of said curve, a distance of 688.32 feet; thence S.06°06'00"E., a distance of 142.79 feet to the POINT OF BEGINNING.

Said tract contains 67,486 square feet or 1.5493 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE EAST LINE OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 26, BEING S.00°09'29"E.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

SEE SHEETS 1–2 FOR SKETCH
SEE SHEET 1 FOR CURVE & LINE TABLES
SEE SHEET 3 FOR DESCRIPTION

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 06:54:41 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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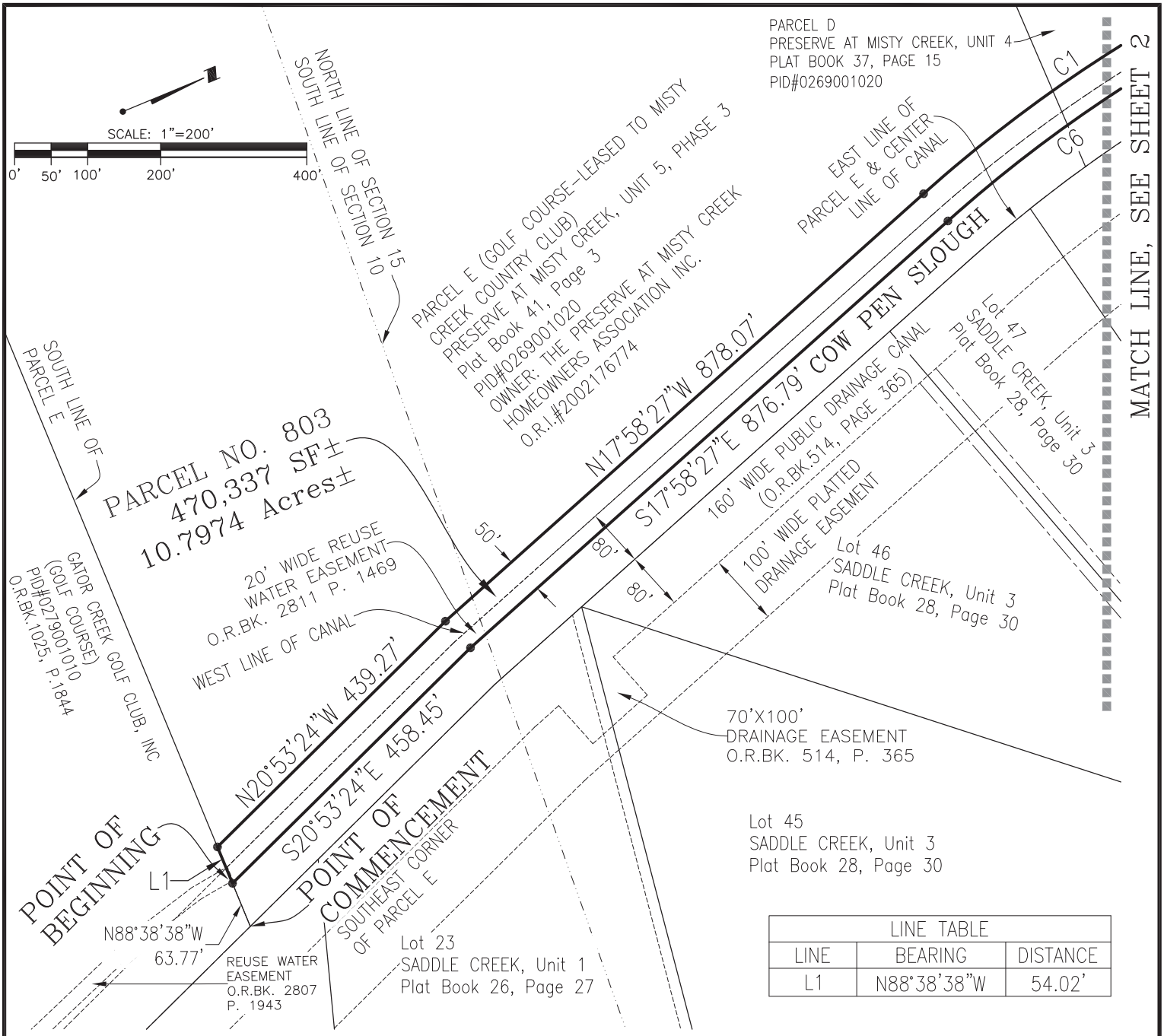
Mar 06, 2023 – 09:03:44 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v–spsk03.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN GATOR CREEK GOLF CLUB LYING IN SECTION 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 702

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v–spsk03	177311750	3 OF 3	177311750v–spsk03	



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N88°38'38"W	54.02'

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	1,990.08'	594.13'	17°06'20"	591.93'	N09°25'17"W
C6	1,940.08'	579.21'	17°06'20"	577.06'	S09°25'17"E

SEE SHEETS 1-6 FOR SKETCH
SEE SHEET 7 FOR DESCRIPTION

ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
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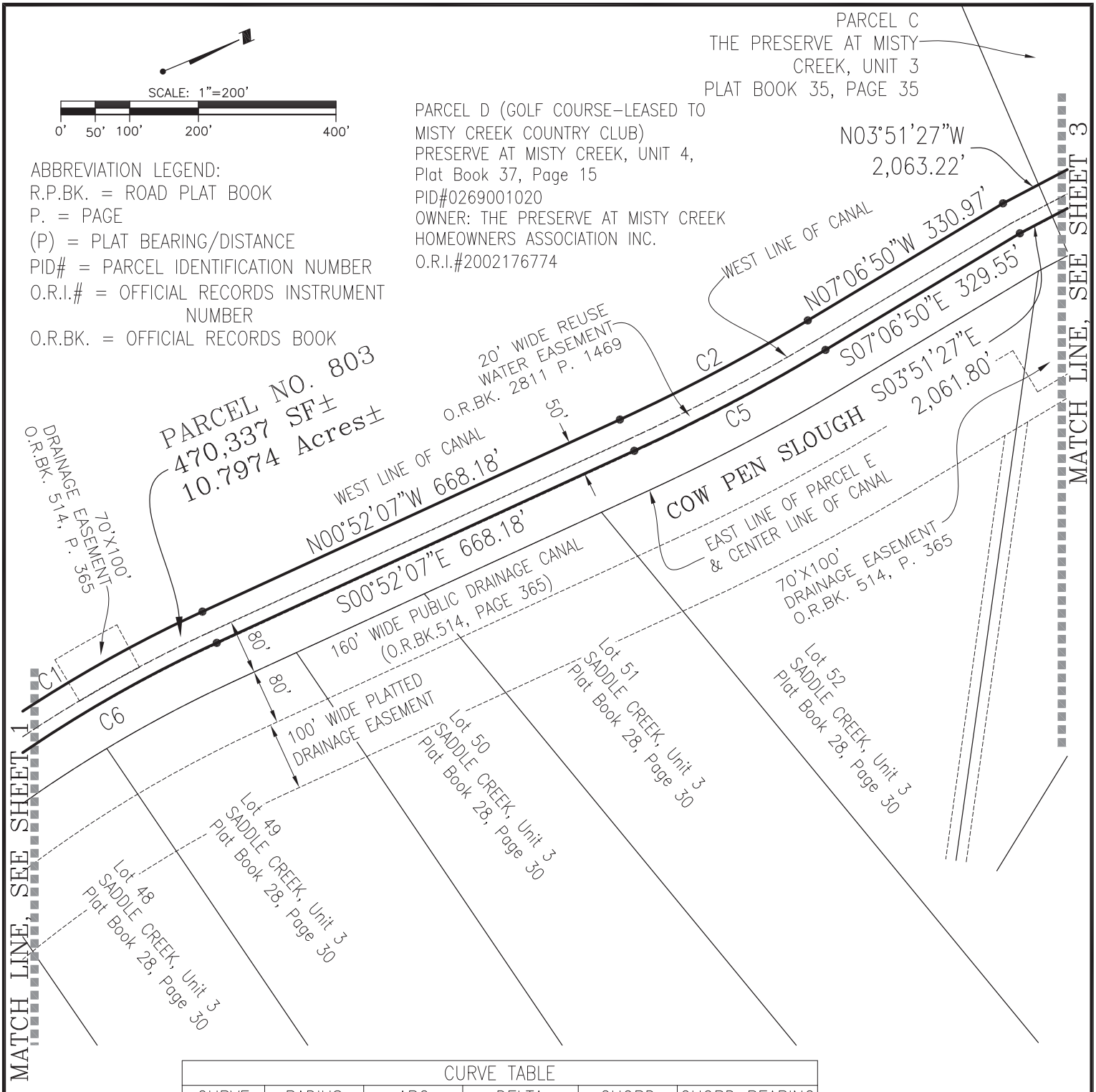
Mar 06, 2023 - 13:48:11 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk04.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN THE PRESERVE AT MISTY CREEK LYING IN SECTIONS 3, 10 & 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 803

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk04	177311750	1 OF 7	177311750v-spsk04	



CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	1,990.08'	594.13'	17°06'20"	591.93'	N09°25'17"W
C2	2,835.23'	309.04'	06°14'43"	308.89'	N03°59'28"W
C5	2,885.23'	314.49'	06°14'43"	314.34'	S03°59'28"E
C6	1,940.08'	579.21'	17°06'20"	577.06'	S09°25'17"E

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

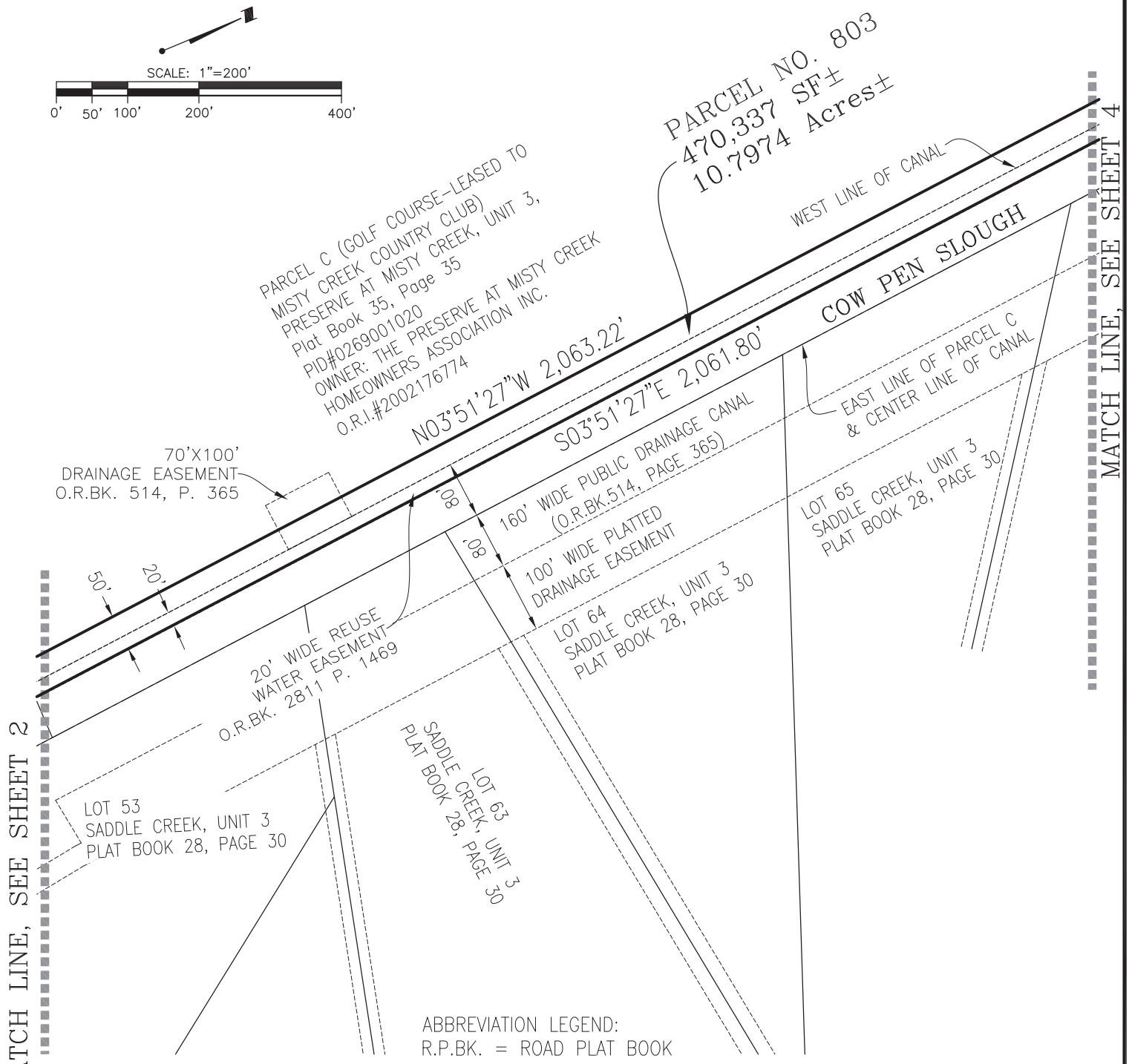
Mar 06, 2023 - 13:48:11 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk04.dwg

SKETCH & DESCRIPTION OF A WATER MAIN EASEMENT IN THE PRESERVE AT MISTY CREEK LYING IN SECTIONS 3, 10 & 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 803

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk04	177311750	2 OF 7	177311750v-spsk04	



ABBREVIATION LEGEND:
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FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY **This is NOT a Survey and Not valid without all sheets.**

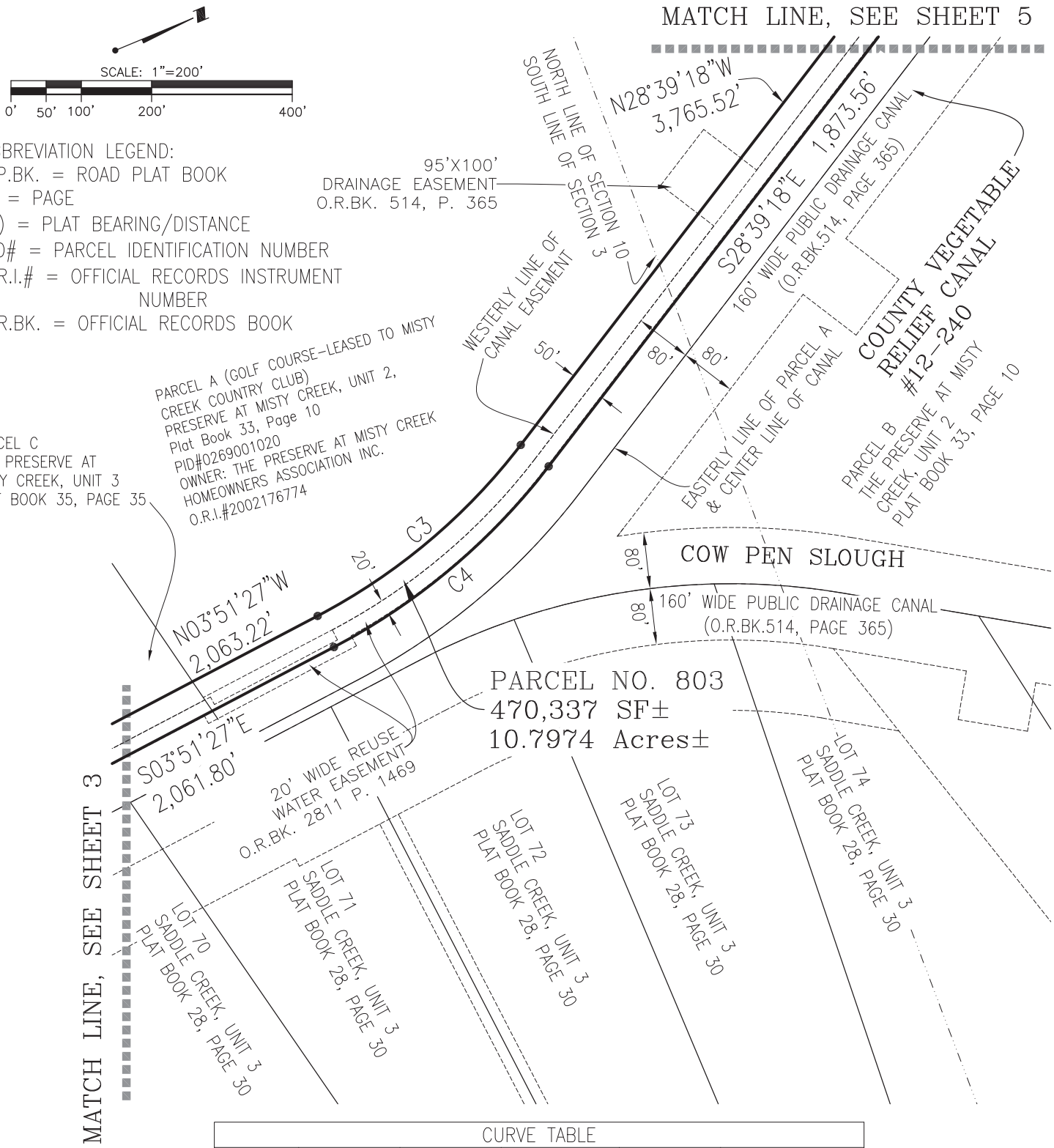
Mar 06, 2023 - 13:48:11 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk04.dwg

SKETCH & DESCRIPTION OF A WATER MAIN EASEMENT IN THE PRESERVE AT MISTY CREEK LYING IN SECTIONS 3, 10 & 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 803

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk04	177311750	3 OF 7	177311750v-spsk04	



CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C3	879.37'	380.59'	24°47'51"	377.63'	N16°15'22"W
C4	929.37'	402.23'	24°47'51"	399.10'	S16°15'22"E

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY **This is NOT a Survey and Not valid without all sheets.**

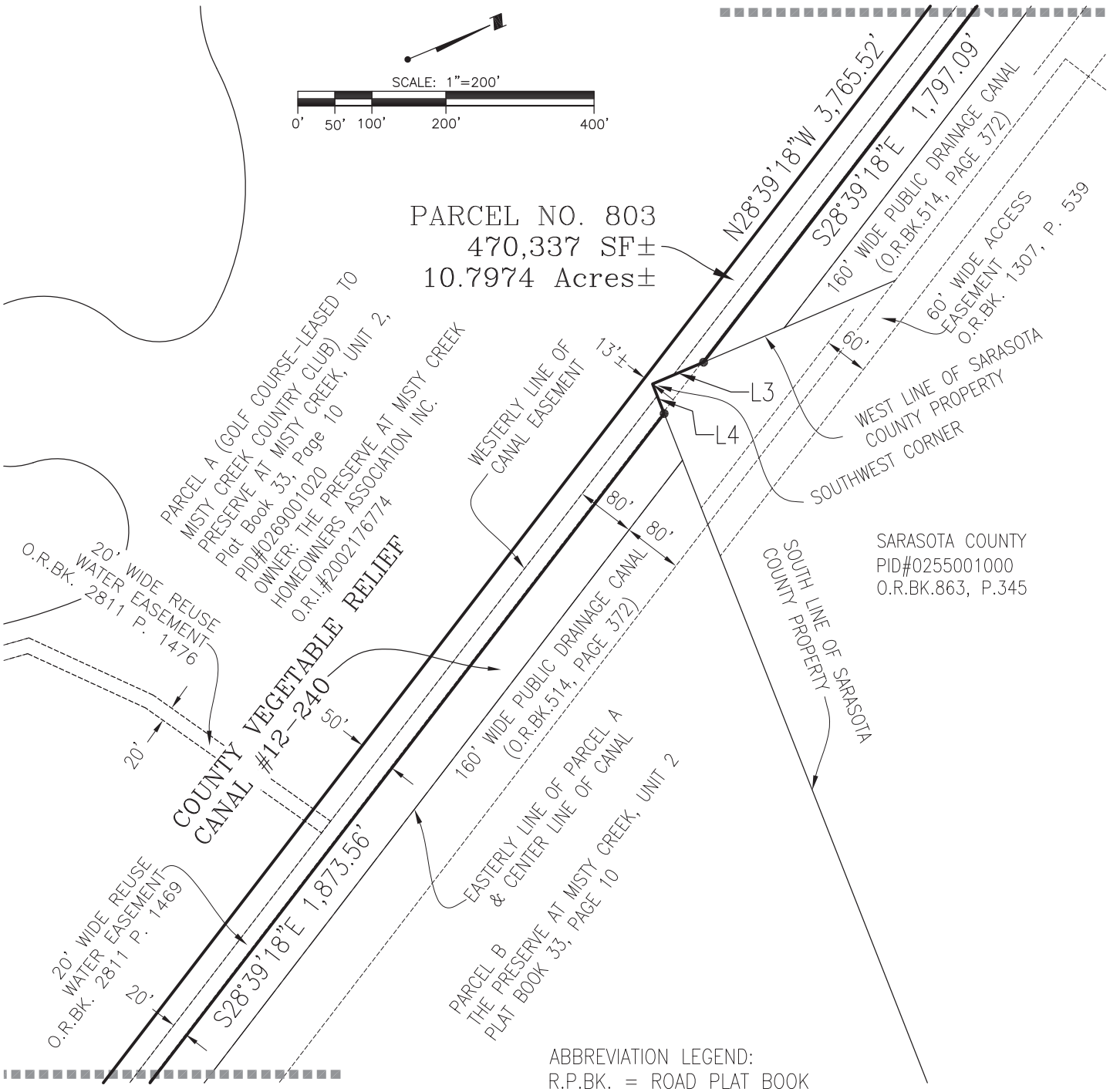
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SKETCH & DESCRIPTION OF A WATER MAIN EASEMENT IN THE PRESERVE AT MISTY CREEK LYING IN SECTIONS 3, 10 & 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 803

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk04	177311750	4 OF 7	177311750v-spsk04	



LINE TABLE		
LINE	BEARING	DISTANCE
L3	S00°42'20"W	74.99'
L4	S87°38'28"E	42.90'

ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
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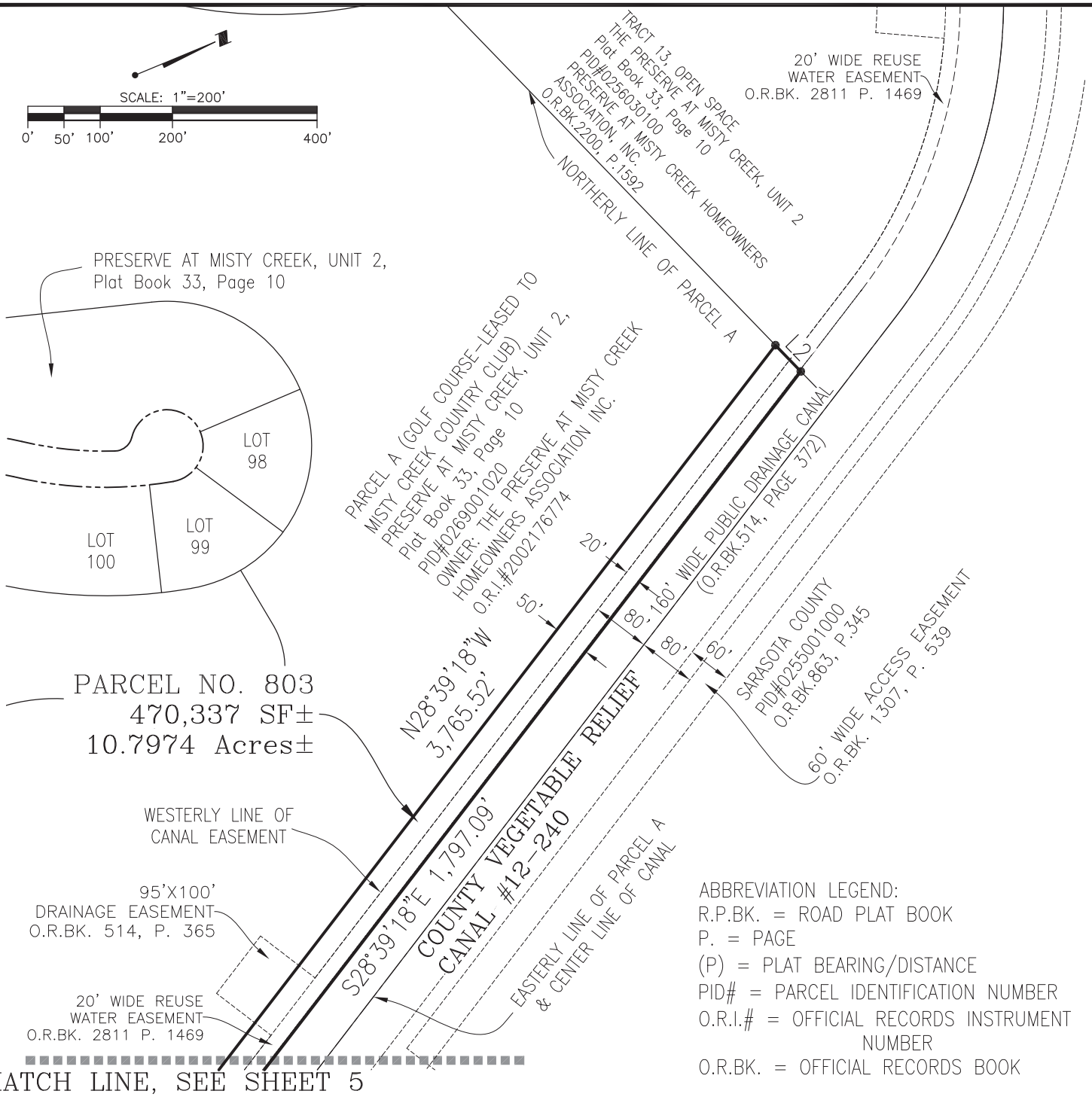
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2.5	JWB	RRC	177311750v-spsk04	177311750	5 OF 7	177311750v-spsk04	



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LINE TABLE		
LINE	BEARING	DISTANCE
L2	N69°46'53"E	50.55'

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY **This is NOT a Survey and Not valid without all sheets.**

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2.5	JWB	RRC	177311750v-spsk04	177311750	6 OF 7	177311750v-spsk04	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 50.00 foot wide strip of land in Parcel E, Preserve at Misty Creek, Unit 5, Phase 3 as recorded in Plat Book 41, Page 3, Parcel D, Preserve at Misty Creek, Unit 4 as recorded in Plat Book 37, Page 15, Parcel C, Preserve at Misty Creek, Unit 3, as recorded in Plat Book 35, Page 35 and Parcel A, Preserve at Misty Creek, Unit 2 as recorded in Plat Book 33, Page 10, all in the Public Records of Sarasota County and lying in Sections 3, 10 and 15, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

Commence at the southeast corner of said Parcel E; thence N.88°38'38"W., along the south line of said Parcel E, a distance of 63.77 feet to the POINT OF BEGINNING; thence continue N.88°38'38"W., along said south line, a distance of 54.02 feet; thence N.20°53'24"W., a distance of 439.27 feet; thence N.17°58'27"W., a distance of 878.07 feet to the point of curvature of a curve to the right having a radius of 1,990.08 feet and a central angle of 17°06'20"; thence northerly along the arc of said curve, a distance of 594.13 feet to the point of tangency of said curve; thence N.00°52'07"W., a distance of 668.18 feet to the point of curvature of a curve to the left having a radius of 2,835.23 feet and a central angle of 06°14'43"; thence northerly along the arc of said curve, a distance of 309.04 feet to the point of tangency of said curve; thence N.07°06'50"W., a distance of 330.97 feet; thence N.03°51'27"W., a distance of 2,063.22 feet to the point of curvature of a curve to the left having a radius of 879.37 feet and a central angle of 24°47'51"; thence northerly along the arc of said curve, a distance of 380.59 feet to the point of tangency of said curve; thence N.28°39'18"W., a distance of 3,765.52 feet to a point on the northerly line of the abovementioned Parcel A; thence N.69°46'53"E., along said northerly parcel line, a distance of 50.55 feet; thence S.28°39'18"E., a distance of 1,797.09 feet to a point on the west line of a Sarasota County property as recorded in Official Records Book 863, Page 345 in said Public Records; thence S.00°42'20"W., along said south line, a distance of 74.99 feet; thence S.87°38'28"E., along the south line of said County parcel, a distance of 42.90 feet; thence S.28°39'18"E., a distance of 1,873.56 feet to the point of curvature of a curve to the right having a radius of 929.37 feet and a central angle of 24°47'51"; thence southerly along the arc of said curve, a distance of 402.23 feet to the point of tangency of said curve; thence S.03°51'27"E., a distance of 2,061.80 feet; thence S.07°06'50"E., a distance of 329.55 feet to the point of curvature of a curve to the right having a radius of 2,885.23 feet and a central angle of 06°14'43"; thence southerly along the arc of said curve, a distance of 314.49 feet to the point of tangency of said curve; thence S.00°52'07"E., a distance of 668.18 feet to the point of curvature of a curve to the left having a radius of 1,940.08 feet and a central angle of 17°06'20"; thence southerly along the arc of said curve, a distance of 579.21 feet to the point of tangency of said curve; thence S.17°58'27"E., a distance of 876.79 feet; thence S.20°53'24"E., a distance of 458.45 feet to the POINT OF BEGINNING.

Said strip contains 470,337 square feet or 10.7974 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE CENTER LINE OF COW PEN SLOUGH, BEING S03°51'27"E
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.06 15:56:39 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/06/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

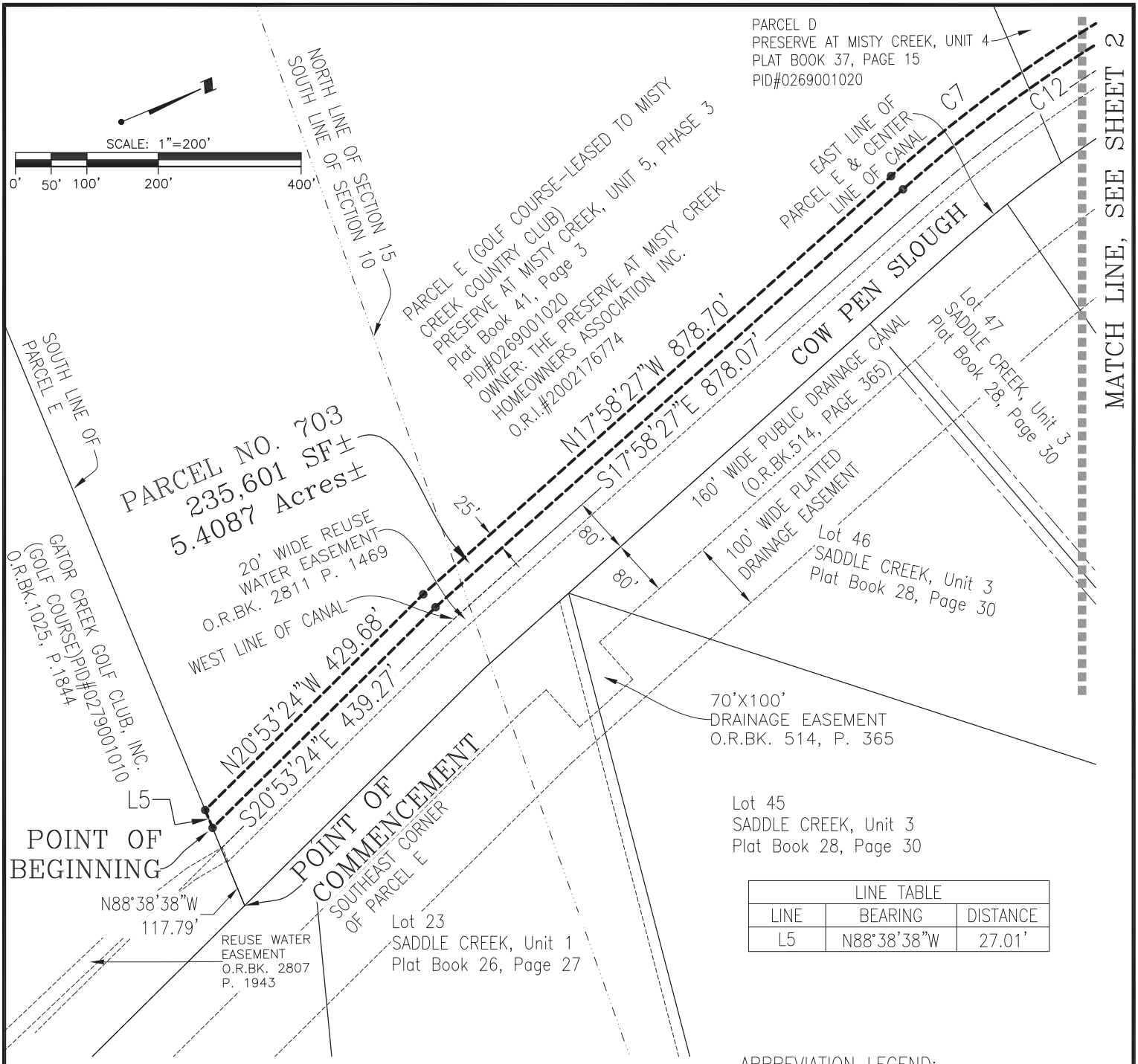
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SKETCH & DESCRIPTION OF A WATER MAIN EASEMENT IN THE PRESERVE AT MISTY CREEK LYING IN SECTIONS 3, 10 & 15, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 803

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk04	177311750	7 OF 7	177311750v-spsk04	



LINE TABLE		
LINE	BEARING	DISTANCE
L5	N88°38'38"W	27.01'

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C7	2,015.08'	601.60'	17°06'20"	599.37'	N09°25'17"W
C12	1,990.08'	594.13'	17°06'20"	591.93'	S09°25'17"E

SEE SHEETS 1-6 FOR SKETCH
SEE SHEET 7 FOR DESCRIPTION

ABBREVIATION LEGEND:
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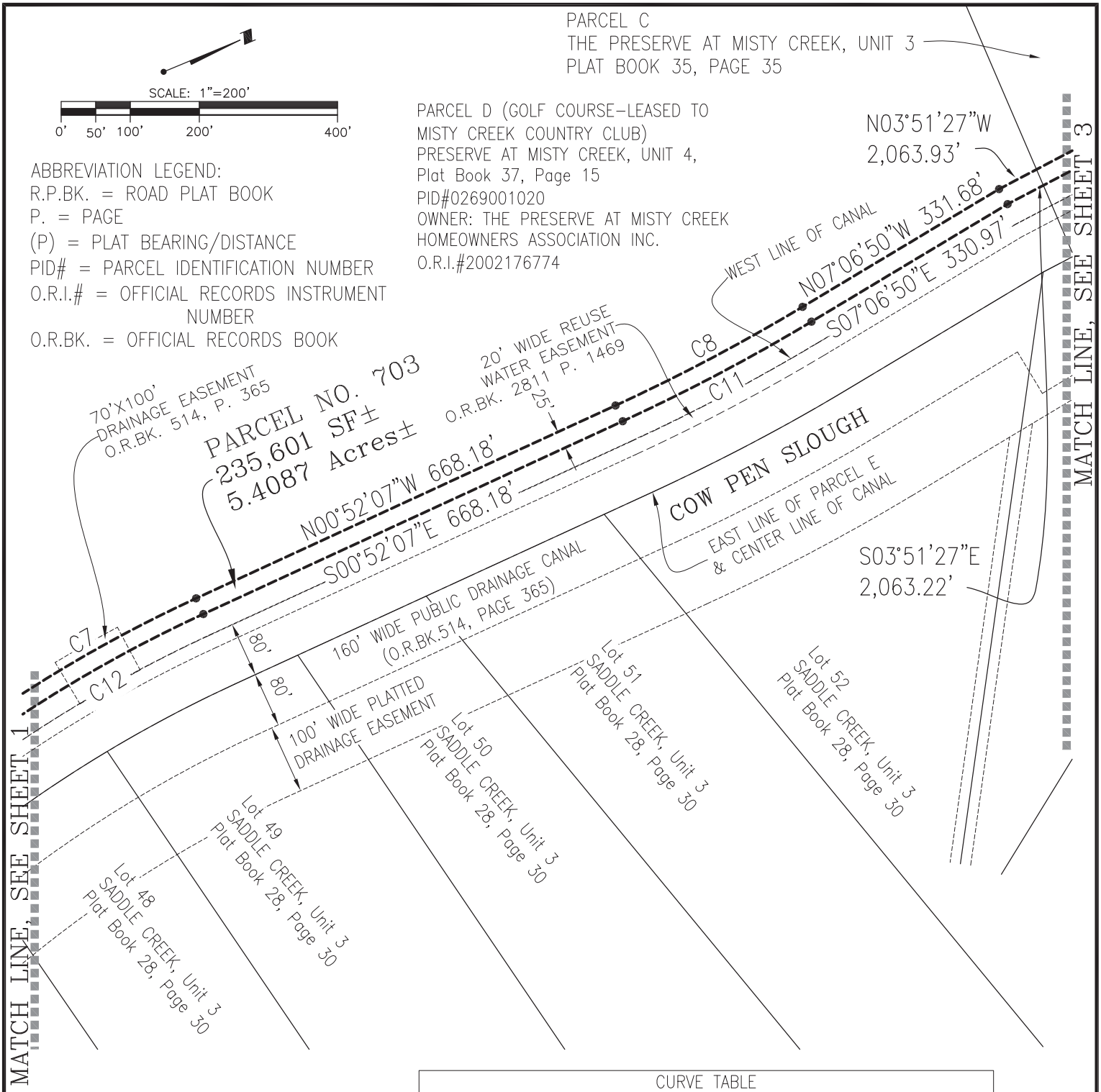
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2.5	JWB	RRC	177311750v-spsk04	177311750	1 OF 7	177311750v-spsk04	



CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C7	2,015.08'	601.60'	17°06'20"	599.37'	N09°25'17"W
C8	2,810.23'	306.32'	06°14'43"	306.17'	N03°59'28"W
C11	2,835.23'	309.04'	06°14'43"	308.89'	S03°59'28"E
C12	1,990.08'	594.13'	17°06'20"	591.93'	S09°25'17"E

SEE SHEETS 1-6 FOR SKETCH
SEE SHEET 7 FOR DESCRIPTION

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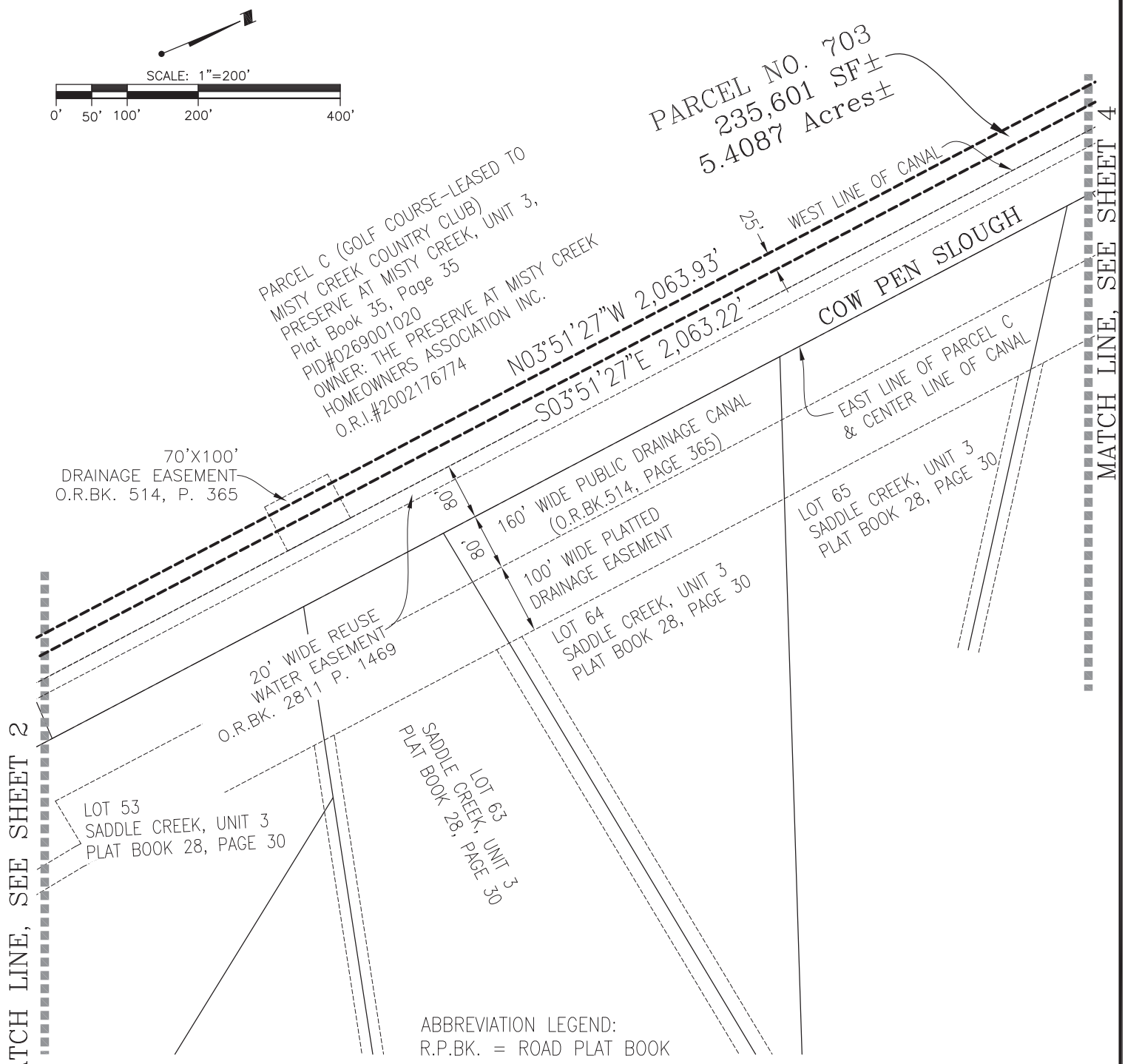
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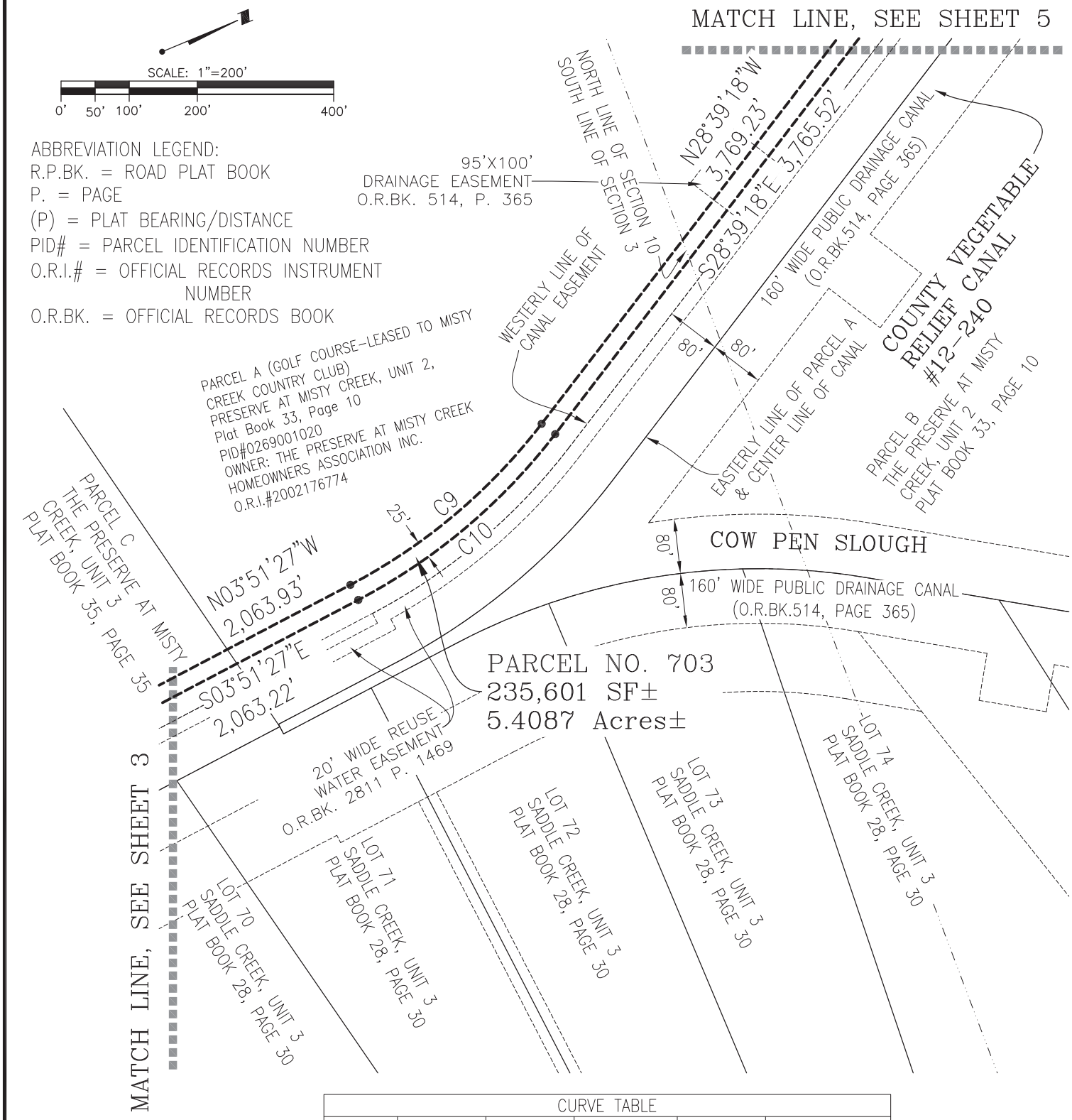
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2.5	JWB	RRC	177311750v-spsk04	177311750	3 OF 7	177311750v-spsk04	



CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C9	854.37'	369.77'	24°47'51"	366.89'	N16°15'22"W
C10	879.37'	380.59'	24°47'51"	377.63'	S16°15'22"E

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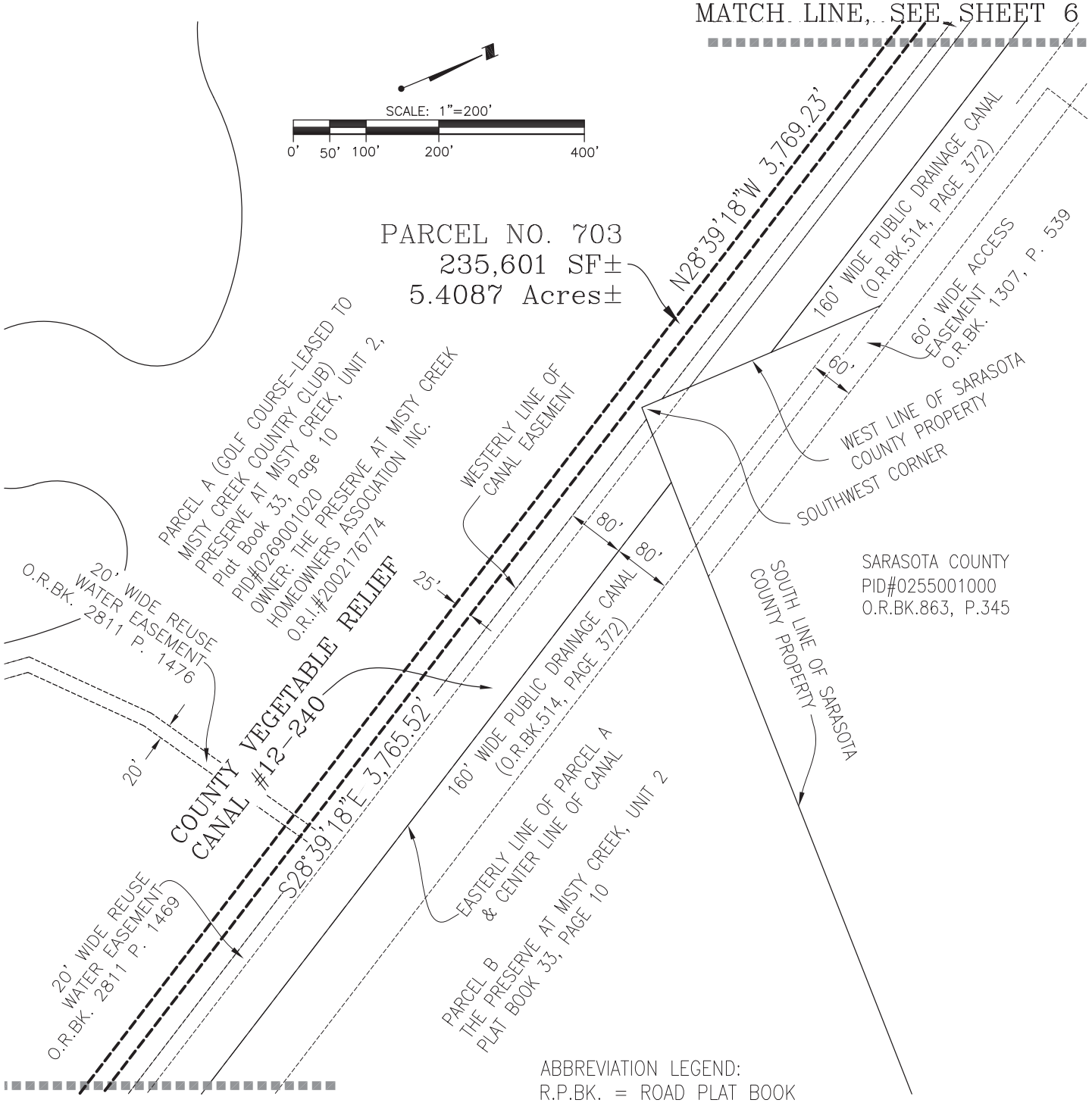
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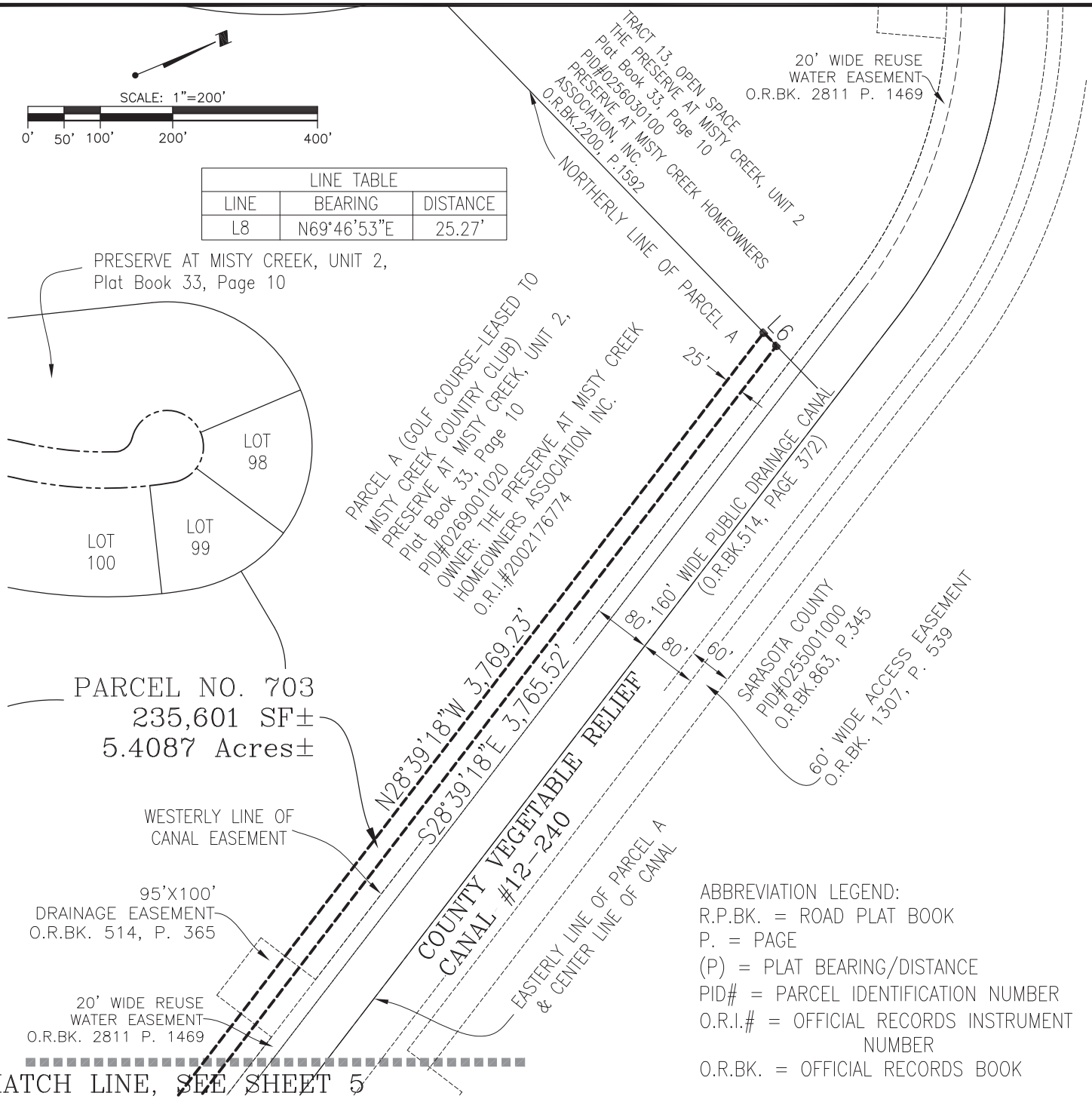
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2.5	JWB	RRC	177311750v-spsk04	177311750	5 OF 7	177311750v-spsk04	



LINE TABLE		
LINE	BEARING	DISTANCE
L8	N69°46'53"E	25.27'

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LINE TABLE		
LINE	BEARING	DISTANCE
L6	N69°46'53"E	25.27'

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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2.5	JWB	RRC	177311750v-spsk04	177311750	6 OF 7	177311750v-spsk04	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 25.00 foot wide strip of land in Parcel E, Preserve at Misty Creek, Unit 5, Phase 3 as recorded in Plat Book 41, Page 3, Parcel D, Preserve at Misty Creek, Unit 4 as recorded in Plat Book 37, Page 15, Parcel C, Preserve at Misty Creek, Unit 3, as recorded in Plat Book 35, Page 35 and Parcel A, Preserve at Misty Creek, Unit 2 as recorded in Plat Book 33, Page 10, all in the Public Records of Sarasota County and lying in Sections 3, 10 and 15, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

Commence at the southeast corner of said Parcel E; thence N.88°38'38"W., along the south line of said Parcel E, a distance of 117.79 feet to the POINT OF BEGINNING; thence continue N.88°38'38"W., along said south line, a distance of 27.01 feet; thence N.20°53'24"W., a distance of 429.68 feet; thence N.17°58'27"W., a distance of 878.70 feet to the point of curvature of a curve to the right having a radius of 2,015.08 feet and a central angle of 17°06'20"; thence northerly along the arc of said curve, a distance of 601.60 feet to the point of tangency of said curve; thence N.00°52'07"W., a distance of 668.18 feet to the point of curvature of a curve to the left having a radius of 2,810.23 feet and a central angle of 06°14'43"; thence northerly along the arc of said curve, a distance of 306.32 feet to the point of tangency of said curve; thence N.07°06'50"W., a distance of 331.68 feet; thence N.03°51'27"W., a distance of 2,063.93 feet to the point of curvature of a curve to the left having a radius of 854.37 feet and a central angle of 24°47'51"; thence northwesterly along the arc of said curve, a distance of 369.77 feet to the point of tangency of said curve; thence N.28°39'18"W., a distance of 3,769.23 feet to a point on the northerly line of said Parcel A; thence N.69°46'53"E., along said northerly line, a distance of 25.27 feet; thence S.28°39'18"E., a distance of 3,765.52 feet to the point of curvature of a curve to the right having a radius of 879.37 feet and a central angle of 24°47'51"; thence southerly along the arc of said curve, a distance of 380.59 feet to the point of tangency of said curve; thence S.03°51'27"E., a distance of 2,063.22 feet; thence S.07°06'50"E., a distance of 330.97 feet to the point of curvature of a curve to the right having a radius of 2,835.23 feet and a central angle of 06°14'43"; thence southerly along the arc of said curve, a distance of 309.04 feet to the point of tangency of said curve; thence S.00°52'07"E., a distance of 668.18 feet to the point of curvature of a curve to the left having a radius of 1,990.08 feet and a central angle of 17°06'20"; thence southerly along the arc of said curve, a distance of 594.13 feet to the point of tangency of said curve; thence S.17°58'27"E., a distance of 878.07 feet; thence S.20°53'24"E., a distance of 439.27 feet to the POINT OF BEGINNING.

Said strip contains 235,601 square feet or 5.4087 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE CENTER LINE OF COW PEN SLOUGH, BEING S03°51'27"E
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.06 15:55:44 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/06/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

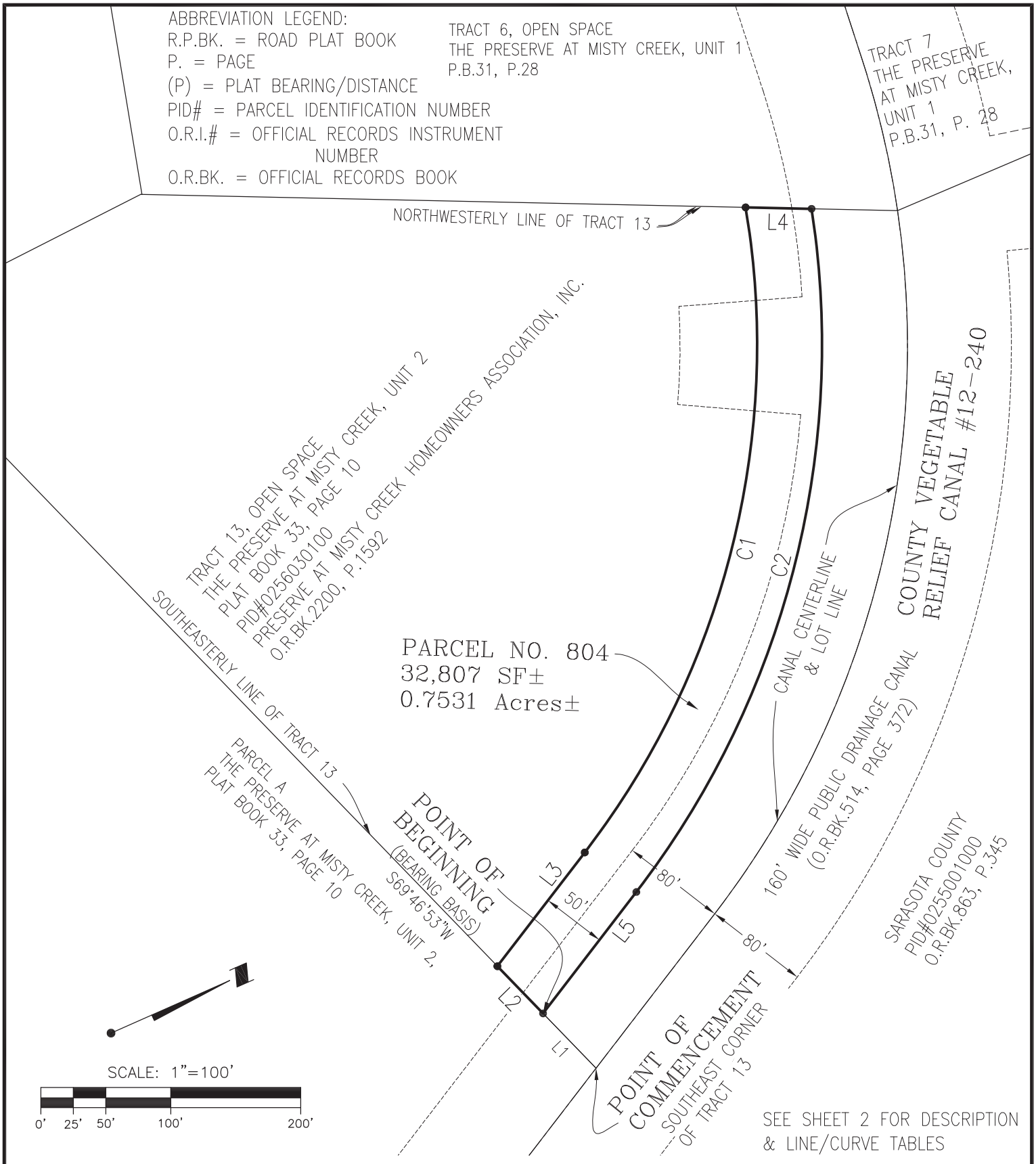
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SEE SHEET 2 FOR DESCRIPTION & LINE/CURVE TABLES

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 06, 2023 – 16:41:46 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk05.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN TRACT 13, THE PRESERVE AT MISTY CREEK, UNIT 2, P.B.33, P.10 IN SECTION 3, TOWNSHIP 37 S,. RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 804

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk05	177311750	1 OF 2	177311750v-spsk05	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 50.00 foot wide strip of land lying in Tract 13, The Preserve at Misty Creek, Unit 2, as recorded in Plat Book 33, Page 10 in the Public Records of Sarasota County and being in Section 3, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

Commence at the southeast corner of said Tract 13; thence S.69°46'53"W., along the southeasterly line of said Tract 13, a distance of 26.29 feet to the POINT OF BEGINNING; thence continue S.69°46'53"W., along said southeasterly tract line, a distance of 50.55 feet; thence N.28°39'18"W., a distance of 110.44 feet to the point of curvature of a curve to the left having a radius of 640.78 feet and a central angle of 47°03'07"; thence northwesterly along the arc of said curve, a distance of 526.21 feet to a point on the northwesterly line of said Tract 13; thence N.25°03'35"E., along said northwesterly tract line, a distance of 50.83 feet to the point of curvature of a non-tangent curve to the right, having a radius of 690.78 feet and a central angle of 46°15'52"; thence southeasterly along the arc of said curve, a distance of 542.75 feet, said curve having a chord bearing and distance of S.51°47'13"E., 542.75 feet, to the point of tangency of said curve; thence S.28°39'18"E., a distance of 117.86 feet to the POINT OF BEGINNING.

Said strip contains 32,807 square feet or 0.7531 acres, more or less.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S69°46'53"W	58.69'
L2	S69°46'53"W	50.55'
L3	N28°39'18"W	110.44'
L4	N25°03'35"E	50.83'
L5	S28°39'18"E	117.86'

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	640.78'	526.21'	47°03'07"	511.55'	N52°10'51"W
C2	690.78'	557.78'	46°15'52"	542.75'	S51°47'13"E

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHEASTERLY LINE OF TRACT 13, BEING S.69°46'53"W. PER PLAT.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 06:56:30 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

SEE SHEET 1 FOR SKETCH

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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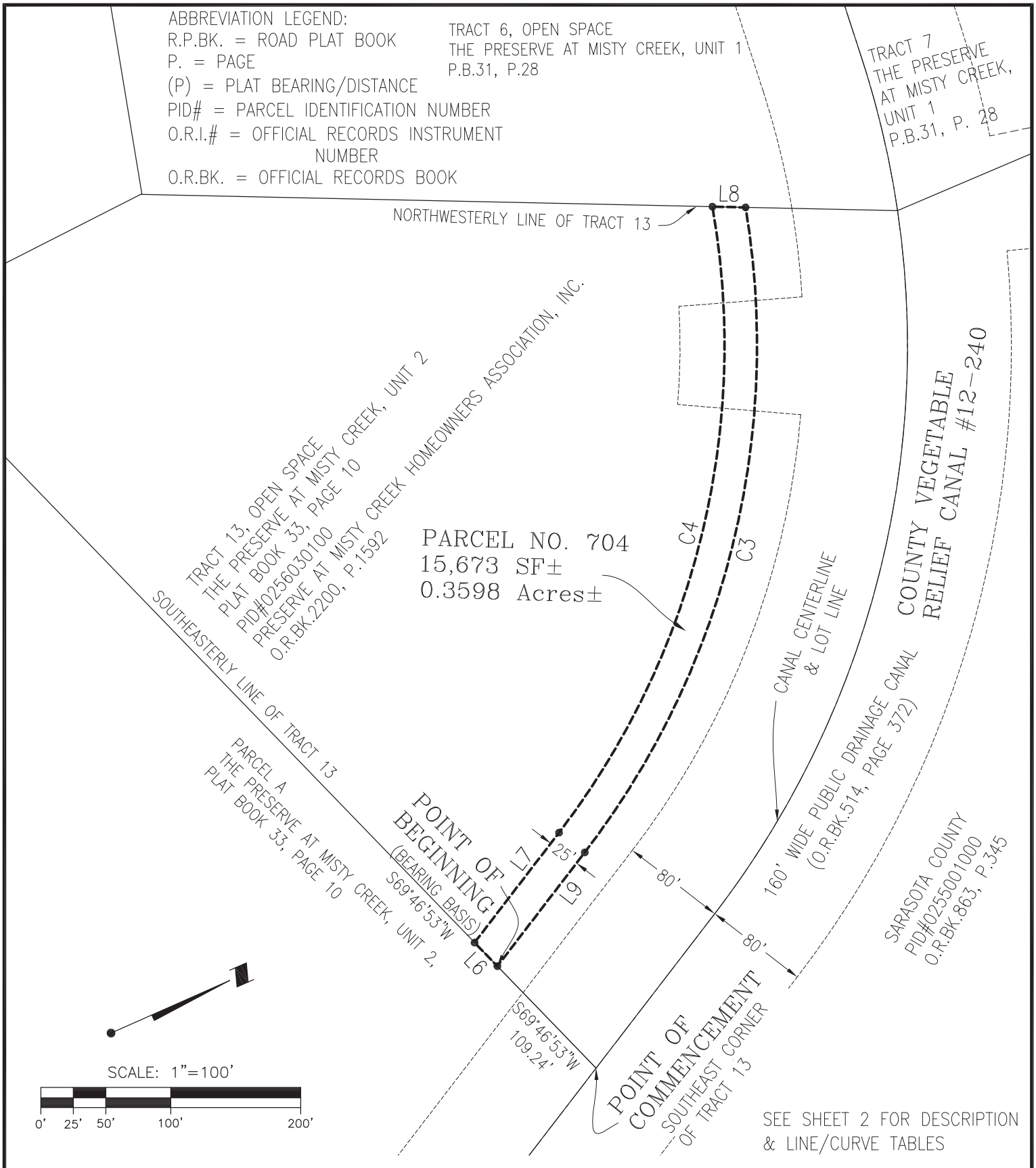
Mar 06, 2023 – 16:41:46 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk05.dwg

SKETCH & DESCRIPTION OF A WATER MAIN EASEMENT IN TRACT 13, THE PRESERVE AT MISTY CREEK, UNIT 2, P.B.33, P.10 IN SECTION 3, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 804

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk05	177311750	2 OF 2	177311750v-spsk05	



SEE SHEET 2 FOR DESCRIPTION & LINE/CURVE TABLES

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 06, 2023 – 17:05:55 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk05.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN TRACT 13, THE PRESERVE AT MISTY CREEK UNIT 2, P.B.33, P.10 IN SECTION 3, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 704

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk05	177311750	1 OF 2	177311750v-spsk05	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 25.00 foot wide strip of land lying in Tract 13, The Preserve at Misty Creek, Unit 2, as recorded in Plat Book 33, Page 10 in the Public Records of Sarasota County and being in Section 3, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

Commence at the southeast corner of said Tract 13; thence S.69°46'53"W., along the southeasterly line of said Tract 13, a distance of 109.24 feet to the POINT OF BEGINNING; thence continue S.69°46'53"W., along said southeasterly tract line, a distance of 25.27 feet; thence N.28°39'18"W., a distance of 106.73 feet to the point of curvature of a curve to the left having a radius of 615.78 feet and a central angle of 47°29'41"; thence northwesterly along the arc of said curve, a distance of 510.44 feet to a point on the northwesterly line of said Tract 13; thence N.25°03'35"E., along said northwesterly tract line, a distance of 25.47 feet to the point of curvature of a non-tangent curve to the right, having a radius of 640.78 feet and a central angle of 47°03'07"; thence southeasterly along the arc of said curve, a distance of 526.21 feet, said curve having a chord bearing and distance of S.52°10'51"E., 511.55 feet, to the point of tangency of said curve; thence S.28°39'18"E., a distance of 110.44 feet to the POINT OF BEGINNING.

Said strip contains 15,673 square feet or 0.3598 acres, more or less.

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C3	640.78'	526.21'	47°03'07"	511.55'	S52°10'51"E
C4	615.78'	510.44'	47°29'41"	495.95'	N52°24'08"W

LINE TABLE		
LINE	BEARING	DISTANCE
L6	S69°46'53"W	25.27'
L7	N28°39'18"W	106.73'
L8	N25°03'35"E	25.47'
L9	S28°39'18"E	110.44'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHEASTERLY LINE OF TRACT 13, BEARING OF S.69°46'53"W. PER PLAT.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 06:57:31 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

SEE SHEET 1 FOR SKETCH

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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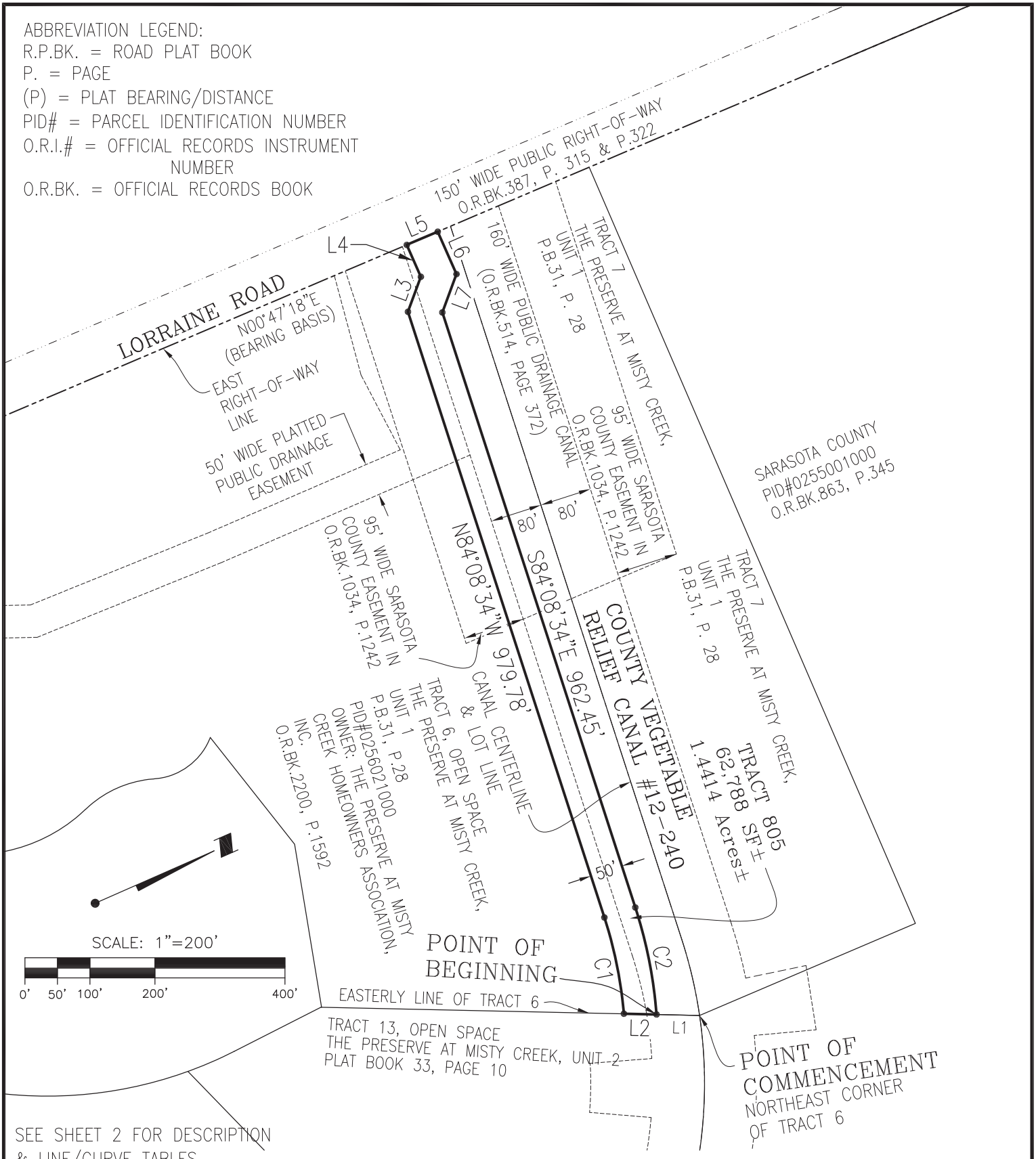
SKETCH & DESCRIPTION OF A TEMPORARY WATER MAINEASEMENT IN TRACT 13, THE PRESERVE AT MISTY CREEK UNIT 2, P.B.33, P.10 IN SECTION 3, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 704

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk05	177311750	2 OF 2	177311750v-spsk05	

ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK



SEE SHEET 2 FOR DESCRIPTION & LINE/CURVE TABLES

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 07, 2023 – 09:04:31 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk06.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN TRACT 6, THE PRESERVE AT MISTY CREEK, UNIT 1, P.B. 31, P. 28 IN SECTION 3, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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TRACT 805

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk06	177311750	1 OF 2	177311750v-spsk06	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 50.00 foot wide strip of land lying in Tract 6, The Preserve at Misty Creek, Unit 1, as recorded in Plat Book 31, Page 28 in the Public Records of Sarasota County and being in Section 3, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

Commence at the northeast corner of said Tract 6; thence S.25°03'35"W., along said easterly line, a distance of 66.15 feet to the POINT OF BEGINNING; thence continue S.25°03'35"W., along said easterly tract line, a distance of 50.27 feet to the point of curvature of a non-tangent curve to the left, having a radius of 665.00 feet and a central angle of 13°02'44"; thence westerly along the arc of said curve, a distance of 151.41 feet, said curve having a chord bearing and distance of N.77°37'11"W., 151.09 feet, to the point of tangency of said curve; thence N.84°08'34"W., a distance of 979.78 feet; thence N.45°54'04"W., a distance of 57.40 feet; thence S.89°59'16"W., a distance of 53.63 feet to a point on the east right-of-way line of Lorraine Road (150.00 foot wide public right-of-way) as recorded in Official Records Book 387, Pages 315 and 322 in said Public Records; thence N.00°47'18"E., along said east right-of-way line, a distance of 51.79 feet; thence N.89°59'16"E., a distance of 71.32 feet; thence S.45°54'04"E., a distance of 62.89 feet; thence S.84°08'34"E., a distance of 962.45 feet to the point of curvature of a curve to the right having a radius of 715.00 feet and a central angle of 13°28'39"; thence Easterly along the arc of said curve, a distance of 168.19 feet to the POINT OF BEGINNING.

Said tract contains 62,788 square feet or 1.4414 acres, more or less.

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	665.00'	151.41'	13°02'44"	151.09'	N77°37'11"W
C2	715.00'	168.19'	13°28'39"	167.80'	S77°24'14"E

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S25°03'35"W	66.15'
L2	S25°03'35"W	50.27'
L3	N45°54'04"W	57.40'
L4	S89°59'16"W	53.63'
L5	N00°47'18"E	51.79'
L6	N89°59'16"E	71.32'
L7	S45°54'04"E	62.89'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE EAST RIGHT-OF-WAY LINE OF LORRAINE ROAD, BEING N.00°47'18"E.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

SEE SHEET 1 FOR SKETCH

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.07 13:34:05 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/07/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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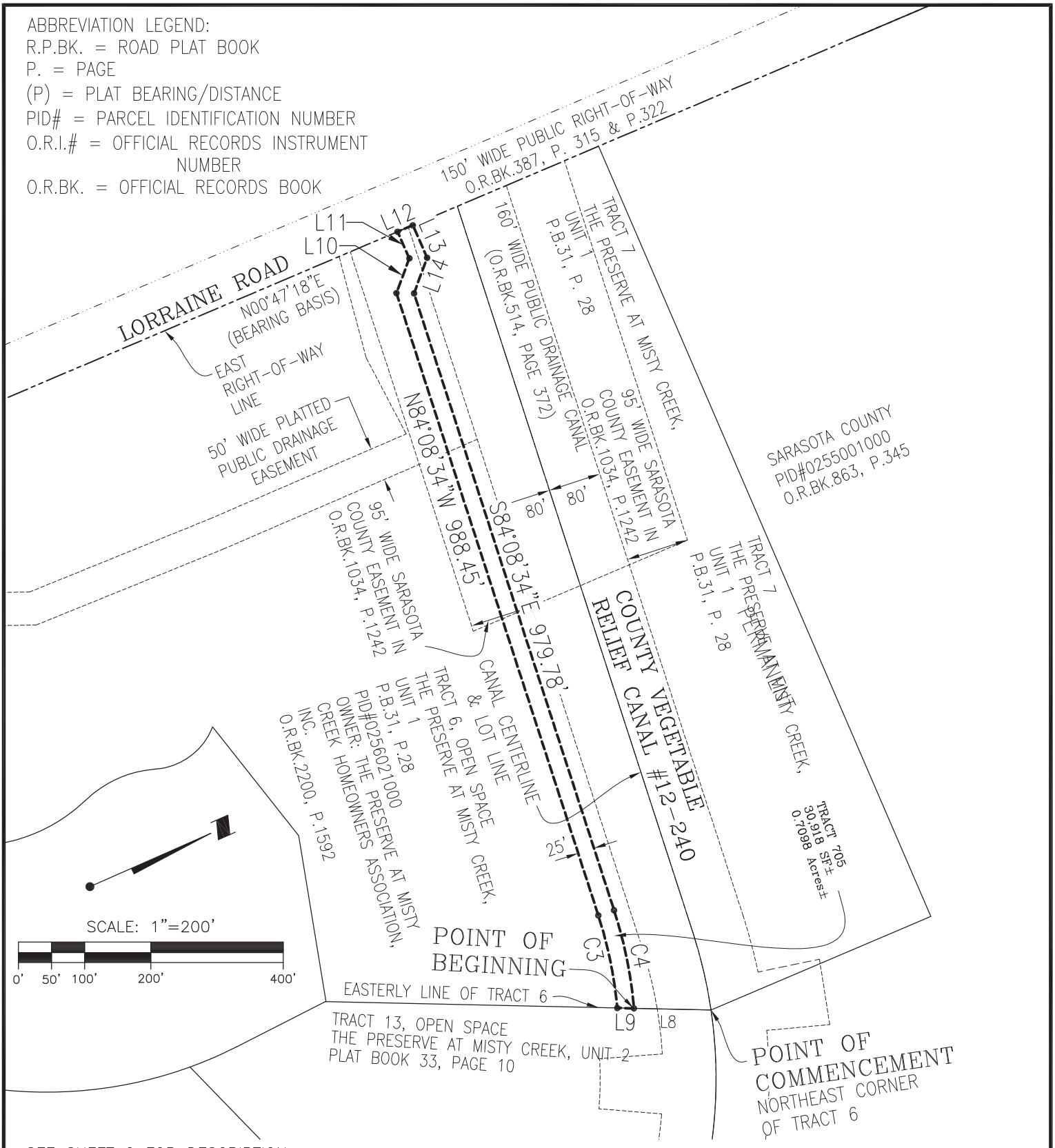
Mar 07, 2023 - 09:04:31 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk06.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN TRACT 6, THE PRESERVE AT MISTY CREEK, UNIT 1, P.B. 31, P. 28 IN SECTION 3, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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TRACT 805

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk01	177311750	2 OF 2	177311750v-spsk01	



SEE SHEET 2 FOR DESCRIPTION & LINE/CURVE TABLES

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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Feb 27, 2023 – 10:52:22 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk06.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN TRACT 6, THE PRESERVE AT MISTY CREEK UNIT 1, P.B.31, P.28 IN SECTION 3, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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TRACT 705

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk06	177311750	1 OF 2	177311750v-spsk06	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 25.00 foot wide strip of land lying in Tract 6, The Preserve at Misty Creek, Unit 1, as recorded in Plat Book 31, Page 28 in the Public Records of Sarasota County and being in Section 3, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

Commence at the northeast corner of said Tract 6; thence S.25°03'35"W., a distance of 116.42feet to the POINT OF BEGINNING; thence continue S.25°03'35"W., a distance of 25.15 feet to the point of curvature of a non-tangent curve to the left, having a radius of 640.00 feet and a central angle of 12°48'15"; thence westerly along the arc of said curve, a distance of 143.02 feet, said curve having a chord bearing and distance of N.77°44'26"W., 142.73 feet, to the point of tangency of said curve; thence N.84°08'34"W., a distance of 988.45 feet; thence N.45°54'04"W., a distance of 55.92 feet; thence S.89°59'16"W., a distance of 43.86 feet to the east right-of-way line of Lorraine Road (150.00 foot wide public right-of-way) as recorded in Official Records Book 387, Pages 315 and 322 in said Public Records; thence N.00°47'18"E., along said east line, a distance of 25.01 feet; thence N.89°59'16"E., a distance of 53.63 feet; thence S.45°54'04"E., a distance of 57.40 feet; thence S.84°08'34"E., a distance of 979.78 feet to the point of curvature of a curve to the right having a radius of 665.00 feet and a central angle of 13°02'44"; thence easterly along the arc of said curve, a distance of 151.41 feet to the POINT OF BEGINNING.

Said tract contains 30,918 square feet or 0.7098 acres, more or less.

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C3	640.00'	143.02'	12°48'15"	142.73'	N77°44'26"W
C4	665.00'	151.41'	13°02'44"	151.09'	S77°37'11"E

LINE TABLE		
LINE	BEARING	DISTANCE
L8	S25°03'35"W	116.42'
L9	S25°03'35"W	25.15'
L10	N45°54'04"W	55.92'
L11	S89°59'16"W	43.86'
L12	N00°47'18"E	25.01'
L13	N89°59'16"E	53.63'
L14	S45°54'04"E	57.40'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE EAST RIGHT-OF-WAY LINE OF LORRAINE ROAD, BEING N.00°47'18"E.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.07 13:35:01 -05'00'

03/07/2023

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

Date of Signature

SEE SHEET 1 FOR SKETCH

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

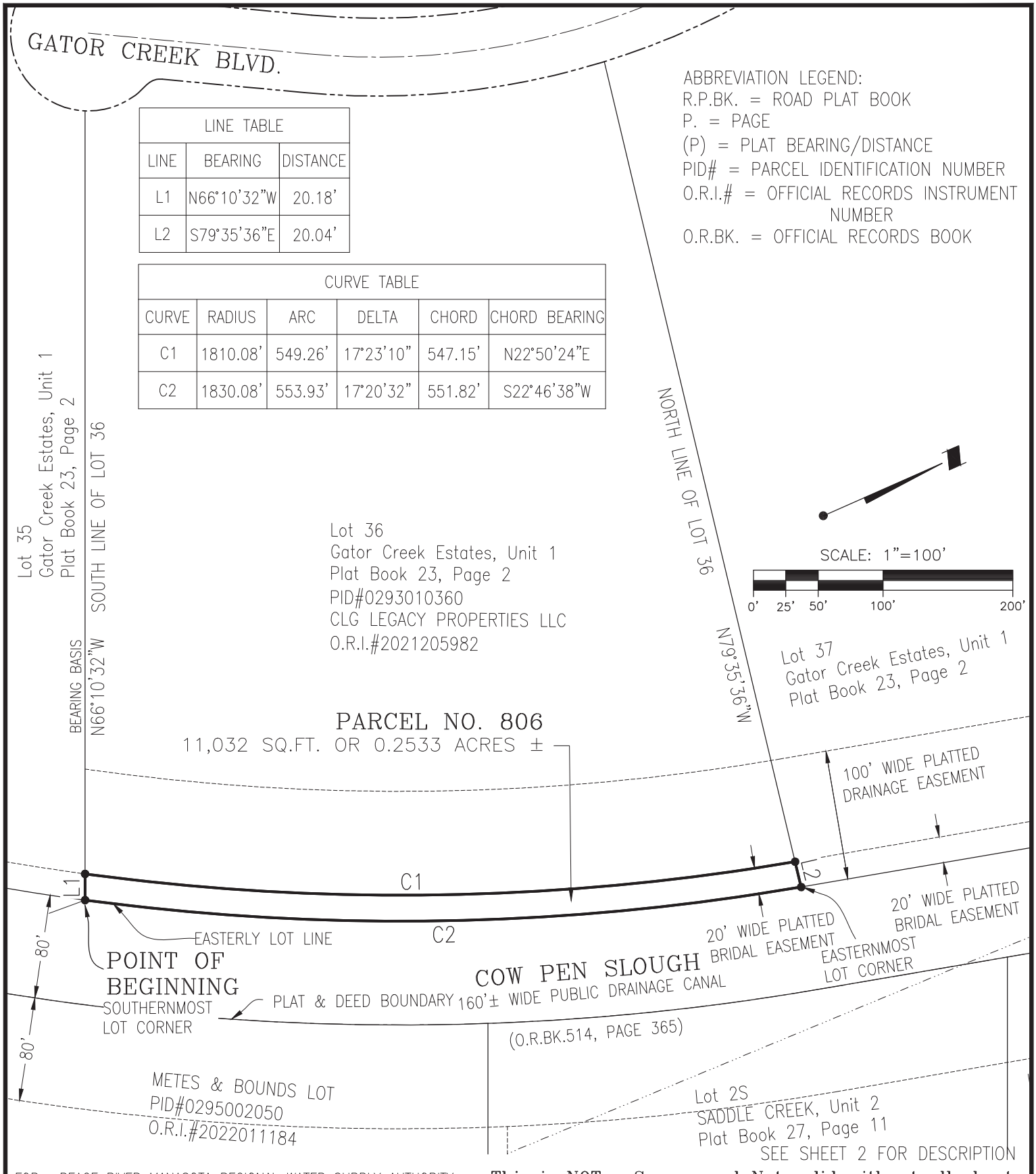
Feb 27, 2023 – 10:52:22 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk06.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN TRACT 6, THE PRESERVE AT MISTY CREEK UNIT 1, P.B.31, P.28 IN SECTION 3, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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TRACT 705

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	JWB	RRC	177311750v-spsk06	177311750	2 OF 2	177311750v-spsk06	



FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Feb 27, 2023 – 10:57:11 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk07.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 36, GATOR CREEK, UNIT 1, P.B.23, P.2 WITHIN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 806

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk07	177311750	1 OF 2	177311750v-spsk07	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 20' wide strip of land lying in Lot 36, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida, Section 22, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

BEGIN at the most southerly corner of said Lot 36, thence N.66°10'32"W., along said southerly line of Lot 36, a distance of 20.18 feet to the point of curvature of a non-tangent curve to the left, having a radius of 1,810.08 feet and a central angle of 17°23'10"; thence northeasterly along the arc of said curve, a distance of 549.26 feet, said curve having a chord bearing and distance of N.22°50'24"E., 547.15 feet, to a point on the northerly line of said Lot 36; thence S.79°35'36"E., along said northerly line of Lot 36, a distance of 20.04 feet to the most easterly corner of said Lot 36, also being the point of curvature of a non-tangent curve to the right, having a radius of 1,830.08 feet and a central angle of 17°20'32"; thence southwesterly along the arc of said curve, a distance of 553.93 feet, said curve having a chord bearing and distance of S.22°46'38"W., 551.82 feet feet to the POINT OF BEGINNING.

Said tract contains 11,032 square feet or 0.2533 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHERLY LINE OF LOT 36, GATOR CREEK ESTATES, UNIT 1, BEING N.86°10'32"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.



Digitally signed by Robert R Cunningham
Date: 2023.03.09 06:59:19 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

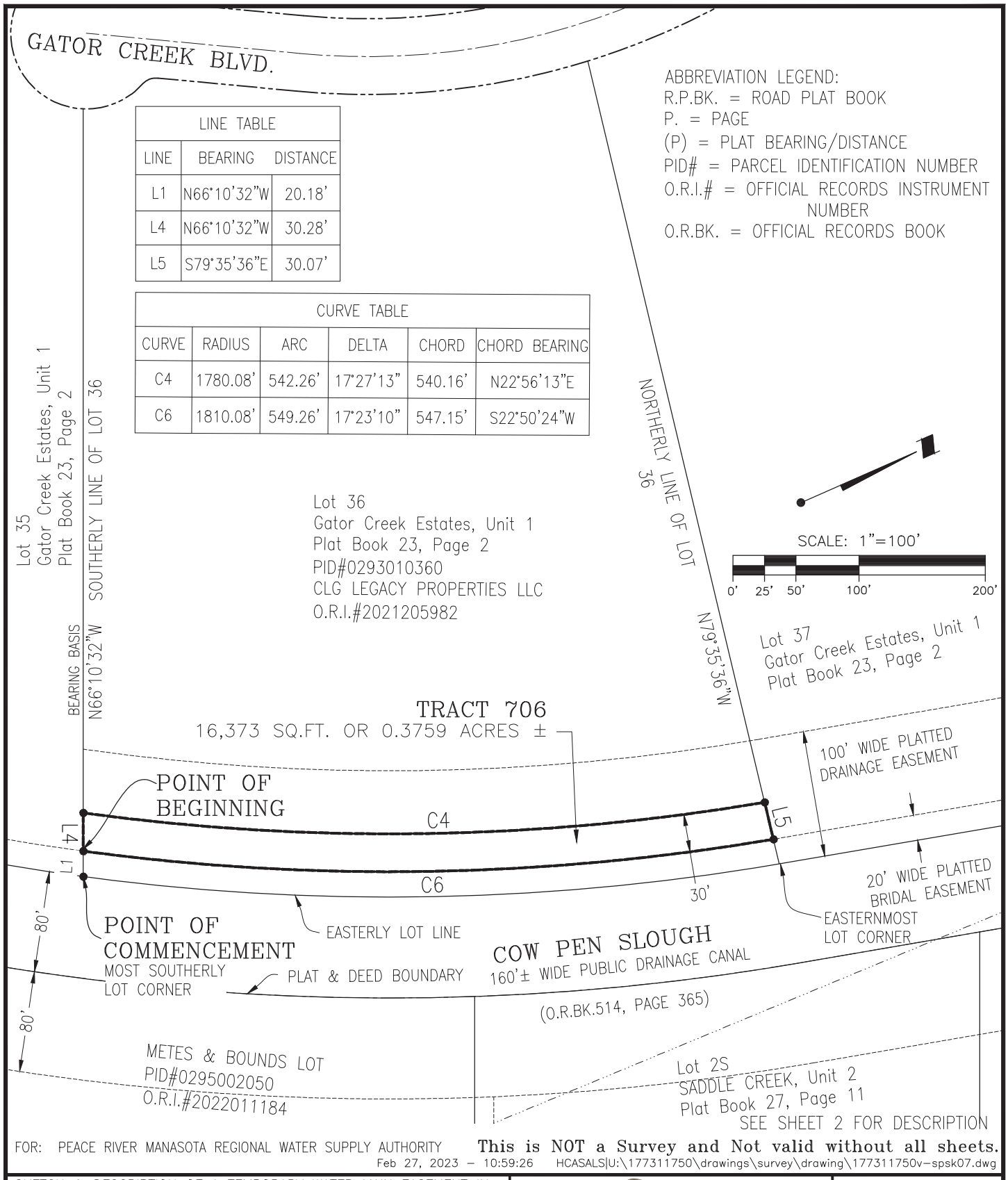
Feb 27, 2023 – 10:57:20 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk07.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 36, GATOR CREEK, UNIT 1, P.B.23, P.2 WITHIN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 806

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk07	177311750	2 OF 2	177311750v-spsk07	



FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Feb 27, 2023 – 10:59:26 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk07.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 36, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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TRACT 706

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk07	177311750	1 OF 2	177311750v-spsk07	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 30' wide strip of land lying in Lot 36, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida, Section 22, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

COMMENCE at the most southerly corner of said Lot 36, thence N.66°10'32"W., along the southerly line of said Lot 36, a distance of 20.18 feet to the POINT OF BEGINNING; thence continue N.66°10'32"W., along said southerly line of Lot 36, a distance of 30.28 feet, said point being the point of curvature of a non-tangent curve to the left, having a radius of 1,780.08 feet and a central angle of 17°27'13"; thence northeasterly along the arc of said curve, a distance of 542.26 feet, said curve having a chord bearing and distance of N.22°56'13"E., 540.16 feet, to a point on the northerly line of said Lot 36; thence S.79°35'36"E., along said northerly lot line, a distance of 30.07 feet, said point being the point of curvature of a non-tangent curve to the right, having a radius of 1,810.08 feet and a central angle of 17°23'10"; thence southwesterly along the arc of said curve, a distance of 549.26 feet, said curve having a chord bearing and distance of S.22°50'24"W., 547.15 feet feet to the POINT OF BEGINNING.

Said tract contains 16,373 square feet or 0.3759 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHERLY LINE OF LOT 36, GATOR CREEK ESTATES, UNIT 1, BEING N.86°10'32"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.



Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:00:26 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

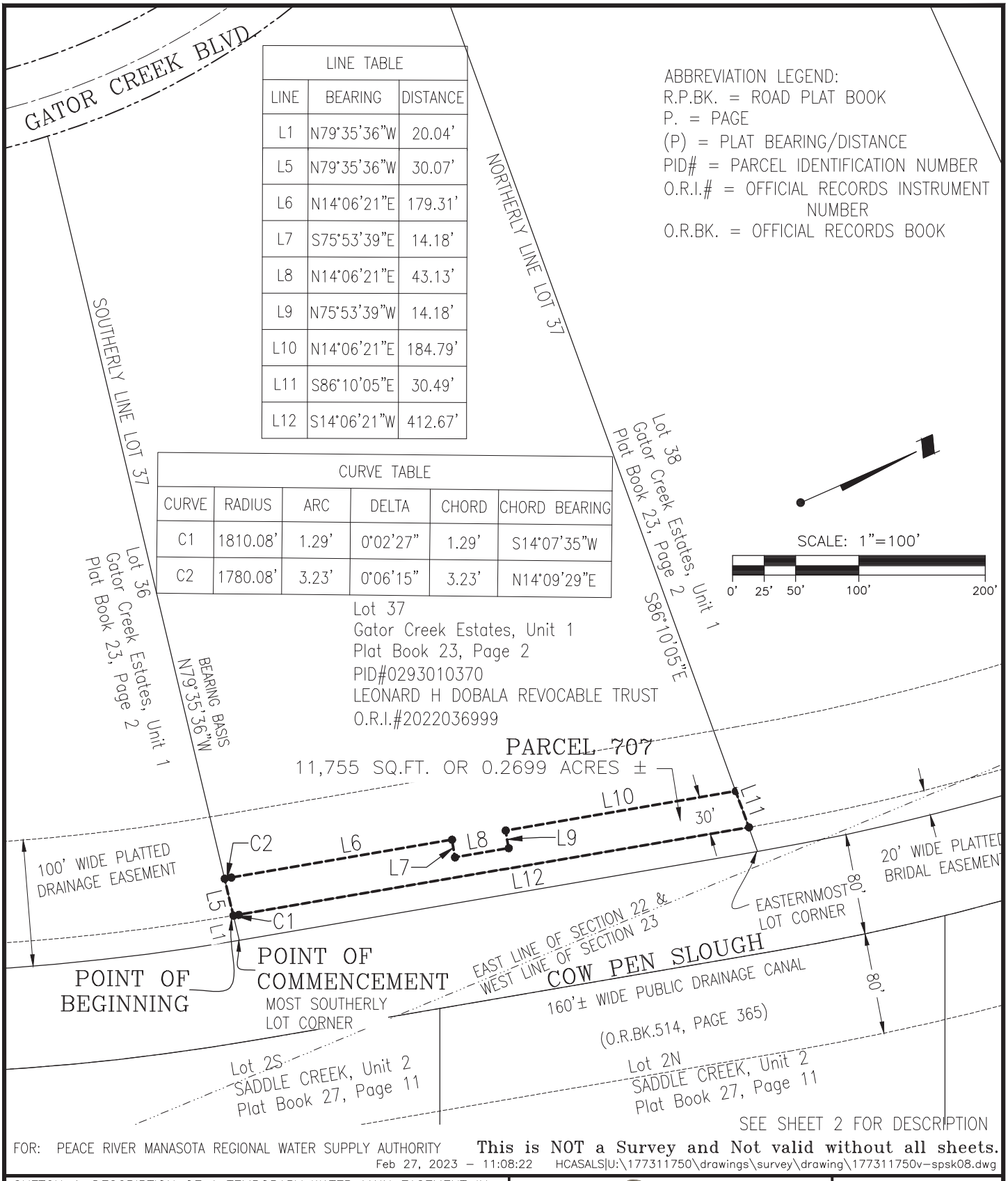
Feb 27, 2023 – 10:59:26 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk07.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 36, GATOR CREEK, UNIT 1, P.B.23, P.2., SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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TRACT 706

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk07	177311750	2 OF 2	177311750v-spsk07	



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N79°35'36"W	20.04'
L5	N79°35'36"W	30.07'
L6	N14°06'21"E	179.31'
L7	S75°53'39"E	14.18'
L8	N14°06'21"E	43.13'
L9	N75°53'39"W	14.18'
L10	N14°06'21"E	184.79'
L11	S86°10'05"E	30.49'
L12	S14°06'21"W	412.67'

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	1810.08'	1.29'	0°02'27"	1.29'	S14°07'35"W
C2	1780.08'	3.23'	0°06'15"	3.23'	N14°09'29"E

ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK

SEE SHEET 2 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Feb 27, 2023 – 11:08:22 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk08.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 37, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 707

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk08	177311760	1 OF 2	177311750v-spsk08	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A strip of land lying in Lot 37, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida, Section 22, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

COMMENCE at the most southerly corner of said Lot 37, thence N.79°35'36"W., along the southerly line of said Lot 37, a distance of 20.04 feet to the POINT OF BEGINNING; thence continue N.79°35'36"W., along said southerly line of Lot 37, a distance of 30.07 feet to a point of curvature of a non-tangent curve to the left, having a radius of 1,780.08 feet and a central angle of 0°06'15"; thence northeasterly along the arc of said curve, a distance of 3.23 feet, said curve having a chord bearing and distance of N.14°09'29"E., 3.23 feet to the point of tangency of said curve; thence N.14°06'21"E., a distance of 179.31; thence S.75°53'39"E., a distance of 14.18 feet; thence N.14°06'21"E., a distance of 43.13 feet; thence N.75°53'39"W., a distance of 14.18 feet; thence N.14°06'21"E., a distance of 184.79 feet to a point on the northerly line of said Lot 37; thence S.86°10'05"E., along said northerly lot line, a distance of 30.49 feet; thence S.14°06'21"W., a distance of 412.67 feet to a point of curvature of a non-tangent curve to the right, having a radius of 1,810.08 feet and a central angle of 0°02'27"; thence southwesterly along the arc of said curve, a distance of 1.29 feet, said curve having a chord bearing and distance of S.14°07'35"W., 1.29 feet to the POINT OF BEGINNING.

Said tract contains 11,755 square feet or 0.2699 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHERLY LINE OF LOT 37, GATOR CREEK ESTATES, UNIT 1, BEING N.79°35'36"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:01:37 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023

Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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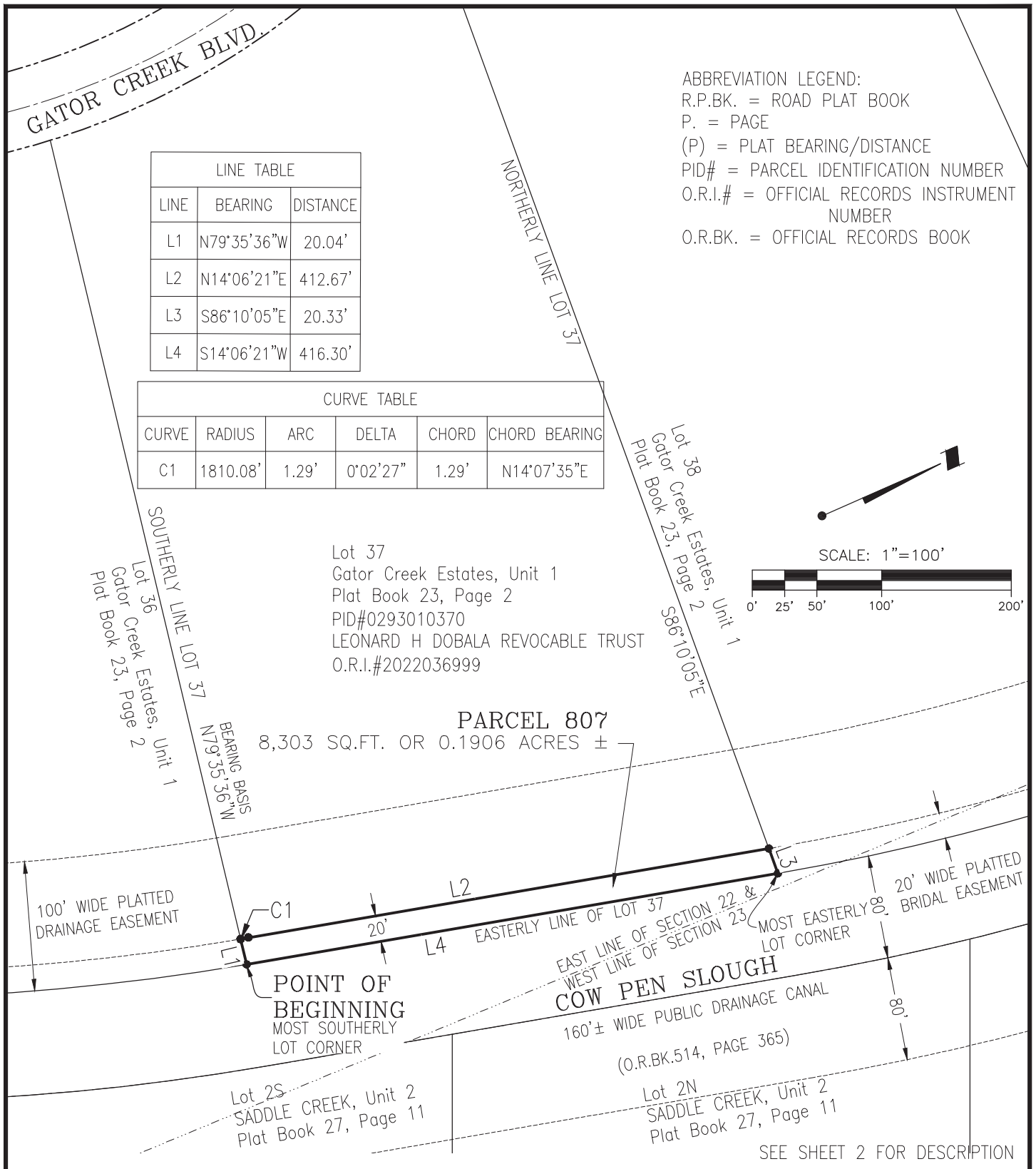
Feb 27, 2023 – 11:04:55 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk08.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 37, GATOR CREEK, UNIT 1, P.B.23, P.2 WITHIN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 707

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk08	177311760	2 OF 2	177311750v-spsk08	



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N79°35'36"W	20.04'
L2	N14°06'21"E	412.67'
L3	S86°10'05"E	20.33'
L4	S14°06'21"W	416.30'

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	1810.08'	1.29'	0°02'27"	1.29'	N14°07'35"E

ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK

SEE SHEET 2 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY **This is NOT a Survey and Not valid without all sheets.**

Feb 27, 2023 – 11:10:05 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk08.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 37, GATOR CREEK, UNIT 1, P.B.23, P.2 WITHIN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 807

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk08	177311760	1 OF 2	177311750v-spsk08	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 20' wide strip of land lying in Lot 37, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida, Section 22, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

BEGIN at the most southerly corner of said Lot 37, thence N.79°35'36"W., along said southerly line of Lot 37, a distance of 20.04 feet to the point of curvature of a non-tangent curve to the left, having a radius of 1,810.08 feet and a central angle of 0°02'27"; thence northeasterly along the arc of said curve, a distance of 1.29 feet, said curve having a chord bearing and distance of N.14°07'35"E., 1.29 feet to the point of tangency of said curve; thence N.14°06'21"E., a distance of 412.67 feet to a point on the northerly line of said Lot 37; thence S.86°10'05"E., along said northerly lot line, a distance of 20.33 feet to the most easterly corner of said Lot 37; thence S.14°06'21"W., along the easterly line of said Lot 37, a distance of 416.30 feet to the POINT OF BEGINNING.

Said tract contains 8,303 square feet or 0.1906 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHERLY LINE OF LOT 37, GATOR CREEK ESTATES, UNIT 1, BEING N.79°35'36"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.



Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:02:40 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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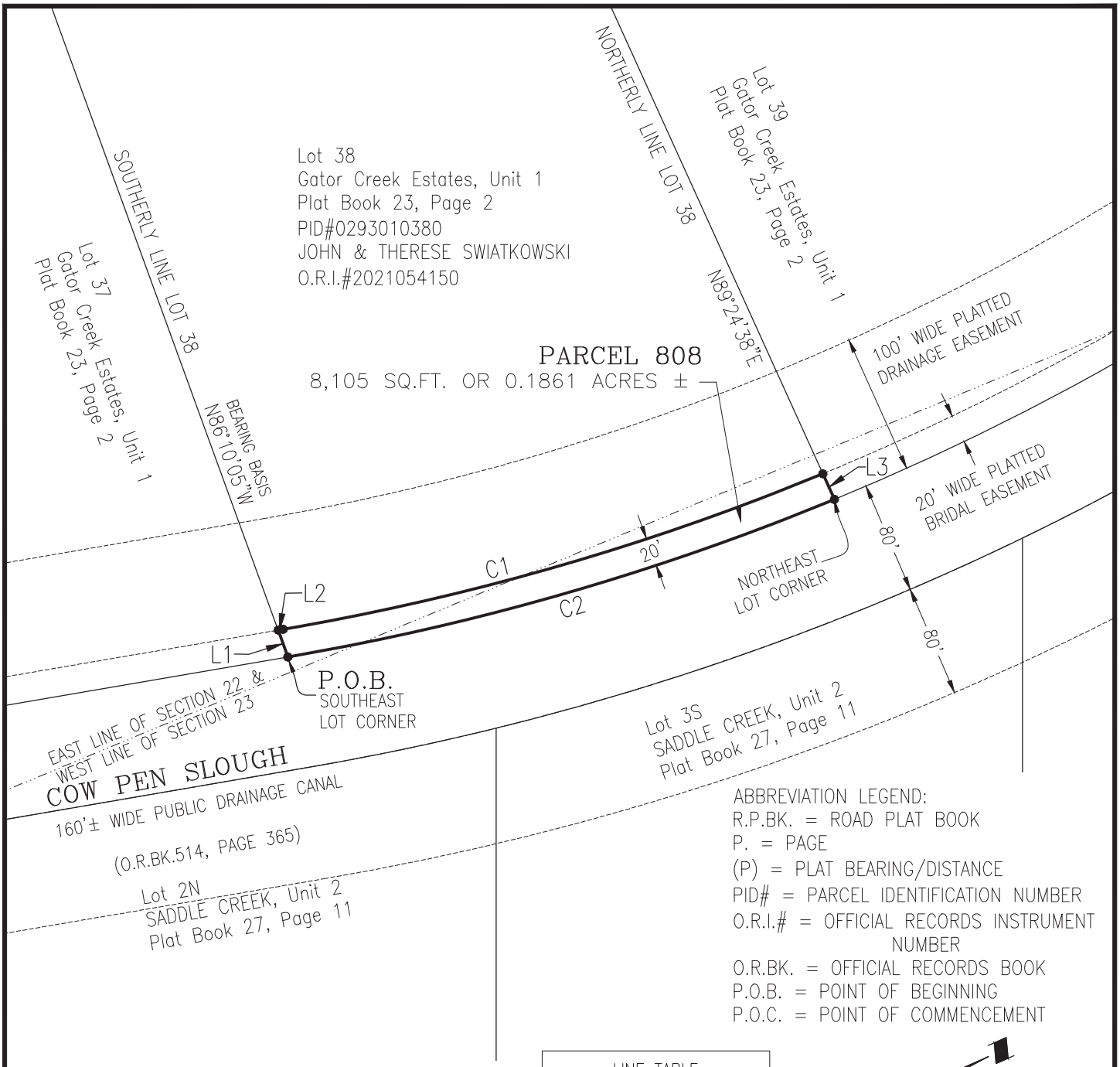
Feb 27, 2023 – 11:08:52 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk08.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 37, GATOR CREEK, UNIT 1, P.B.23, P.2 WITHIN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 807

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk08	177311760	2 OF 2	177311750v-spsk08	



ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK
P.O.B. = POINT OF BEGINNING
P.O.C. = POINT OF COMMENCEMENT

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	1810.08'	400.88'	12°41'22"	400.06'	N07°45'41"E
C2	1830.08'	406.01'	12°42'41"	405.18'	S07°45'01"W

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N86°10'05"W	20.33'
L2	N14°06'21"E	3.63'
L3	N89°24'38"E	20.01'

SCALE: 1"=100'
0' 25' 50' 100' 200'

SEE SHEET 2 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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Jan 23, 2023 – 10:55:29 JNUNNERY|D:\Sarasota\177311750\drawings\survey\drawing\177311750v-spsk09.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 38, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTIONS 22 AND 23, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 808

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk09	177311750	1 OF 2	177311750v-spsk09	

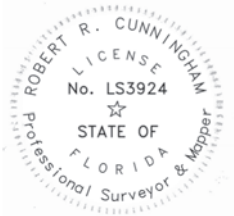
DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 20' wide strip of land lying in Lot 38, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida, Sections 22 and 23, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

BEGIN at the southeast corner of said Lot 38, thence N.86°10'05"W., along the southerly line of said Lot 38, a distance of 20.33 feet; thence N.14°06'21"E., a distance of 3.63 feet to the point of curvature of a non-tangent curve to the left, having a radius of 1,810.08 feet and a central angle of 12°41'22"; thence northeasterly along the arc of said curve, a distance of 400.88 feet, said curve having a chord bearing and distance of N.07°45'41"E., 400.06 feet to a point on the northerly line of said Lot 38; thence N.89°24'38"E., along said northerly lot line, a distance of 20.01 feet to the northeast corner of said Lot 38; point also being the point of curvature of a non-tangent curve to the right, having a radius of 1,830.08 feet and a central angle of 12°42'41"; thence southwesterly along the arc of said curve, a distance of 406.01 feet, said curve having a chord bearing and distance of S.07°45'01"W., 405.18 feet to the POINT OF BEGINNING.

Said tract contains 8,105 square feet or 0.1861 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHERLY LINE OF LOT 38, GATOR CREEK ESTATES, UNIT 1, BEING N.86°10'05"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.



Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:03:37 -05'00'

03/09/2023

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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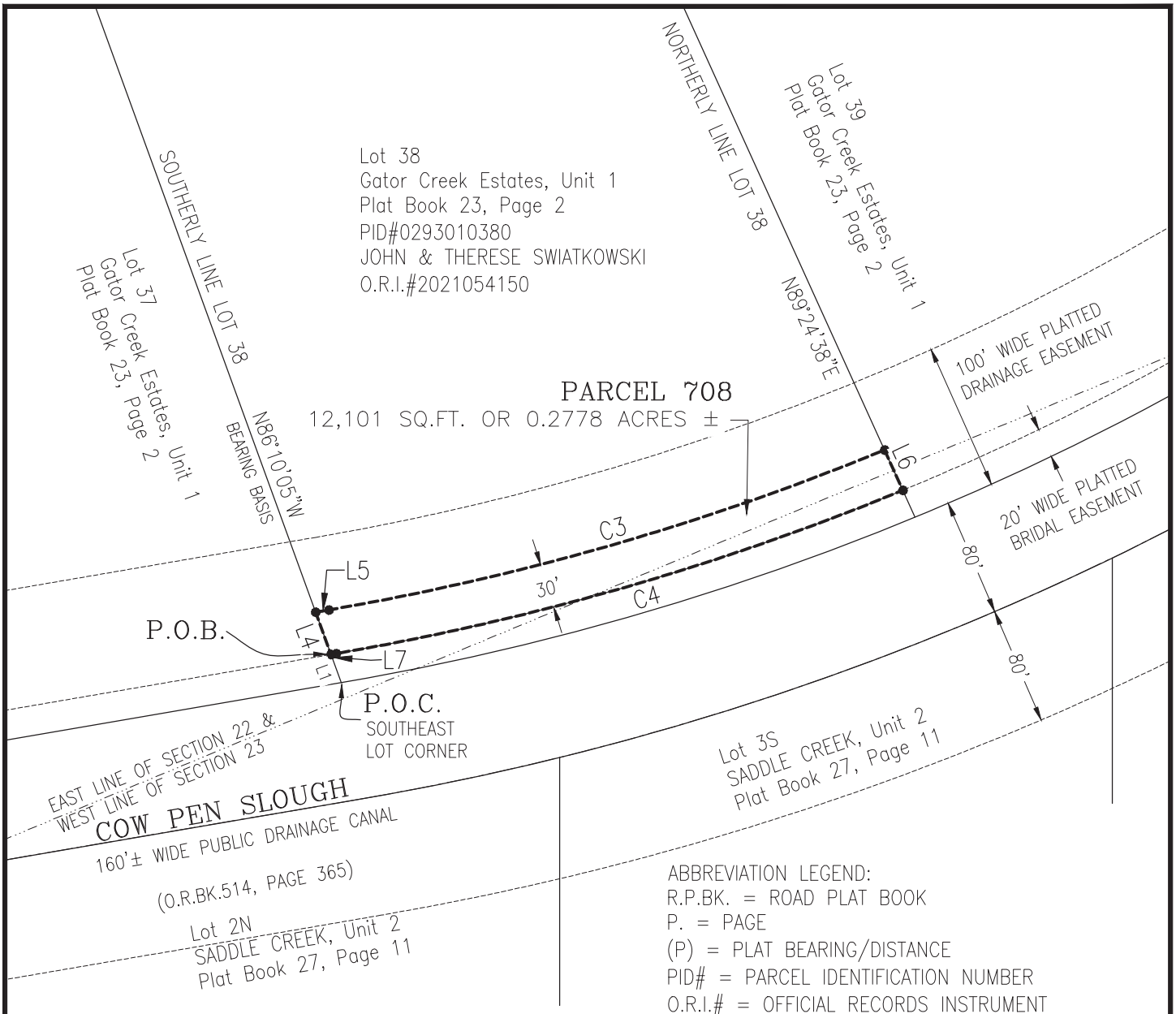
Jan 23, 2023 – 10:55:29 JNUNNERY|D:\Sarasota\177311750\drawings\survey\drawing\177311750v-spsk09.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 38, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTIONS 22 AND 23, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 808

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk09	177311750	2 OF 2	177311750v-spsk09	



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N86°10'05"W	20.33'
L4	N86°10'05"W	30.49'
L5	N14°06'21"E	9.06'
L6	N89°24'38"E	30.02'
L7	S14°06'21"W	3.63'

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C3	1780.08'	393.19'	12°39'20"	392.39'	N07°46'41"E
C4	1810.08'	400.88'	12°41'22"	400.06'	S07°45'41"W

ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
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O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK
P.O.B. = POINT OF BEGINNING
P.O.C. = POINT OF COMMENCEMENT
SQ. FT. = SQUARE FEET

SCALE: 1"=100'

0' 25' 50' 100' 200'

SEE SHEET 2 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Feb 27, 2023 – 11:11:52 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk09.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 38, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTIONS 22 AND 23, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 708

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk09	177311750	1 OF 2	177311750v-spsk09	

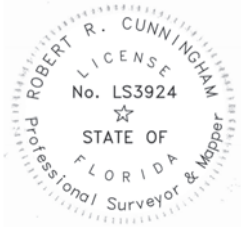
DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 30' wide strip of land lying in Lot 38, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida, Sections 22 and 23, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

COMMENCE at the southeast corner of said Lot 38, thence N.86°10'05"W., along the southerly line of said Lot 38, a distance of 20.33 feet to the POINT OF BEGINNING; thence continue N.86°10'05"W. along said lot line a distance of 30.49 feet; thence N.14°06'21"E., a distance of 9.06 feet to the point of curvature of a non-tangent curve to the left, having a radius of 1,780.08 feet and a central angle of 12°39'20"; thence northeasterly along the arc of said curve, a distance of 393.19 feet, said curve having a chord bearing and distance of N.07°46'41"E., 392.39 feet to a point on the northerly line of said Lot 38; thence N.89°24'38"E., along said northerly lot line, a distance of 30.02 feet, to a point of curvature of a non-tangent curve to the right, having a radius of 1,810.08 feet and a central angle of 12°41'22"; thence southwesterly along the arc of said curve, a distance of 400.88 feet, said curve having a chord bearing and distance of S.07°45'41"W., 400.06 feet; thence S.14°06'21"W., a distance of 3.63 feet to the POINT OF BEGINNING.

Said tract contains 12,101 square feet or 0.2778 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHERLY LINE OF LOT 38, GATOR CREEK ESTATES, UNIT 1, BEING N.86°10'05"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.



Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:04:31 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Feb 27, 2023 – 11:12:30 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk09.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 38, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTIONS 22 AND 23, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

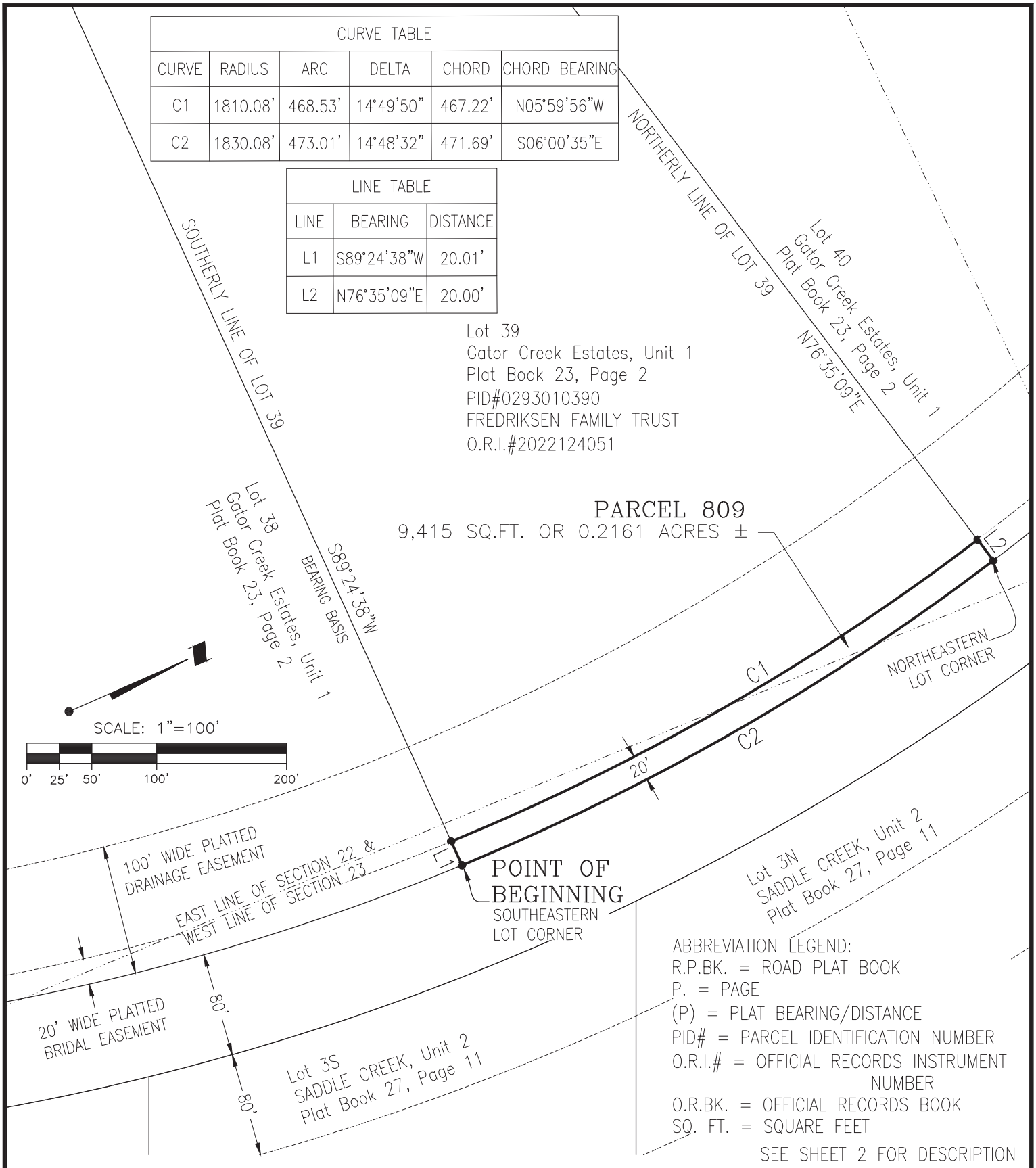
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PARCEL NO. 708

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk09	177311750	2 OF 2	177311750v-spsk09	

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C1	1810.08'	468.53'	14°49'50"	467.22'	N05°59'56"W
C2	1830.08'	473.01'	14°48'32"	471.69'	S06°00'35"E

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S89°24'38"W	20.01'
L2	N76°35'09"E	20.00'



ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK
SQ. FT. = SQUARE FEET

SEE SHEET 2 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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Feb 27, 2023 – 11:21:25 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk10.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 39, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 809

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk10	177311750	1 OF 2	177311750v-spsk10	

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A strip of land lying in Lot 39, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida, Section 22, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

BEGIN at the southeastern corner of said Lot 39, thence S.89°24'38"W., along the southerly line of said Lot 39, a distance of 20.01 feet to the point of curvature of a non-tangent curve to the left, having a radius of 1,810.08 feet and a central angle of 14°49'50"; thence northwesterly along the arc of said curve, a distance of 468.53 feet, said curve having a chord bearing and distance of N.05°59'56"W., 467.22 feet to a point on the northerly line of said Lot 39; thence N.76°35'09"E., along said northerly lot line, a distance of 20.00 feet to the northeastern corner of said Lot 39, said point being the point of curvature of a non-tangent curve to the right, having a radius of 1,830.08 feet and a central angle of 14°48'32"; thence southeasterly along the arc of said curve, a distance of 473.01 feet, said curve having a chord bearing and distance of S.06°00'35"E., 471.69 feet to the POINT OF BEGINNING.

Said tract contains 9,415 square feet or 0.2161 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHERLY LINE OF LOT 39, GATOR CREEK ESTATES, UNIT 1, BEING S.89°24'38"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:05:33 -05'00'

03/09/2023

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Feb 27, 2023 – 11:21:13 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk10.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 39, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

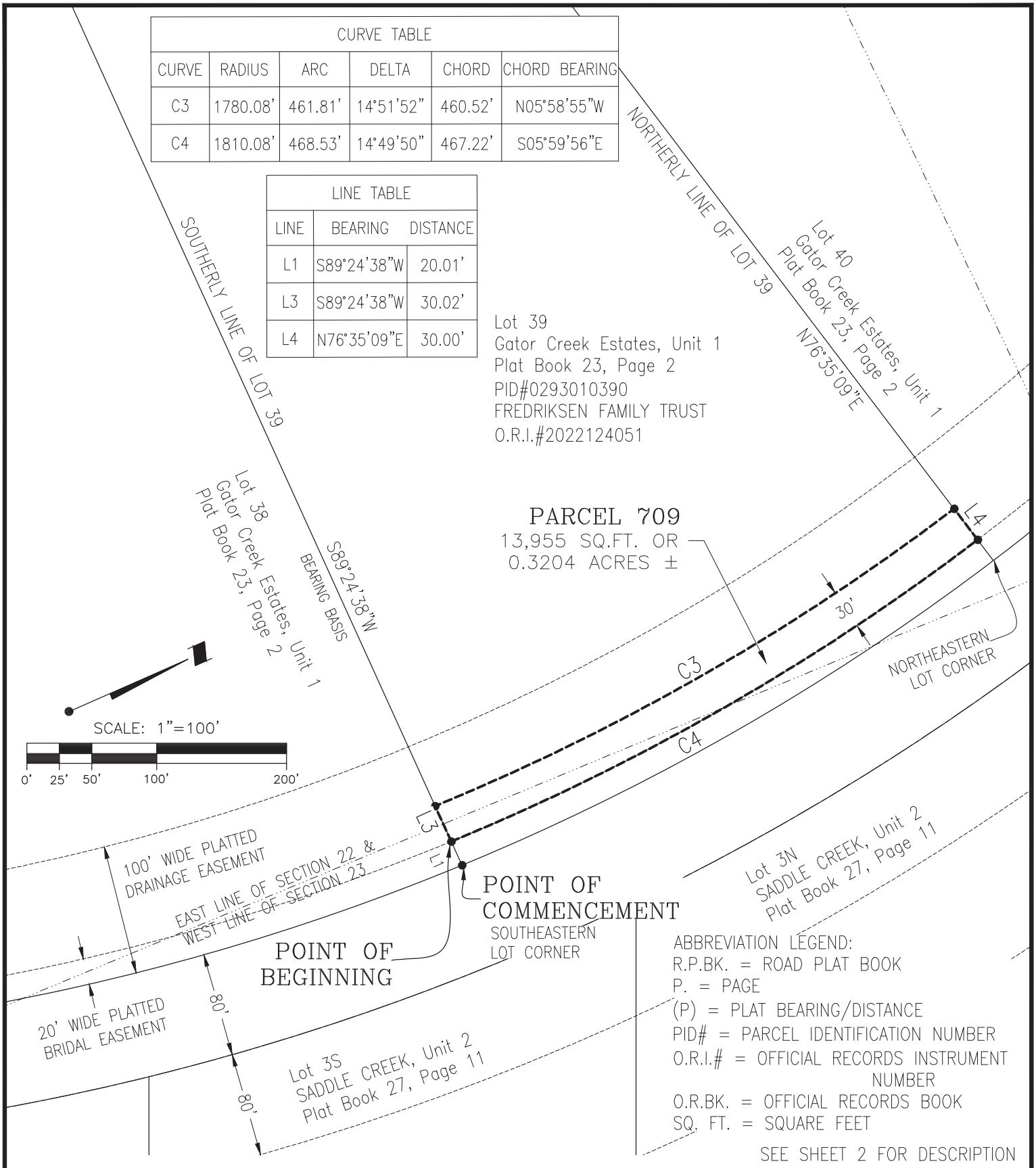
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PARCEL NO. 809

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk10	177311750	2 OF 2	177311750v-spsk10	

CURVE TABLE					
CURVE	RADIUS	ARC	DELTA	CHORD	CHORD BEARING
C3	1780.08'	461.81'	14°51'52"	460.52'	N05°58'55"W
C4	1810.08'	468.53'	14°49'50"	467.22'	S05°59'56"E

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S89°24'38"W	20.01'
L3	S89°24'38"W	30.02'
L4	N76°35'09"E	30.00'



ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK
SQ. FT. = SQUARE FEET

SEE SHEET 2 FOR DESCRIPTION

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Feb 27, 2023 – 11:19:34 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk10.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 39, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 709

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk10	177311750	1 OF 2	177311750v-spsk10	

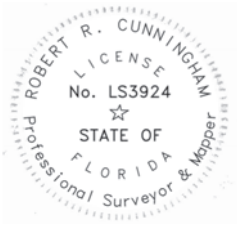
DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

A 30' wide strip of land lying in Lot 39, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida, Section 22, Township 37 South, Range 19 East, Sarasota County, Florida, being more particularly described as follows:

COMMENCE at the southeast corner of said Lot 39, thence S.89°24'38"W., along the southerly line of said Lot 39, a distance of 20.01 feet to the POINT OF BEGINNING; thence continue S.89°24'38"W. along said lot line a distance of 30.02 feet to the point of curvature of a non-tangent curve to the left, having a radius of 1,780.08 feet and a central angle of 14°51'52"; thence northwesterly along the arc of said curve, a distance of 461.81 feet, said curve having a chord bearing and distance of N.05°58'55"W., 460.52 feet to a point on the northerly line of said Lot 39; thence N.76°35'09"E., along said northerly lot line, a distance of 30.00 feet to a point being the point of curvature of a non-tangent curve to the right, having a radius of 1,810.08 feet and a central angle of 14°49'50"; thence southeasterly along the arc of said curve, a distance of 468.53 feet, said curve having a chord bearing and distance of S.05°59'56"E., 467.22 feet to the POINT OF BEGINNING.

Said tract contains 13,955 square feet or 0.3204 acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTHERLY LINE OF LOT 39, GATOR CREEK ESTATES, UNIT 1, BEING S.89°24'38"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.



Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:06:28 -05'00'

03/09/2023

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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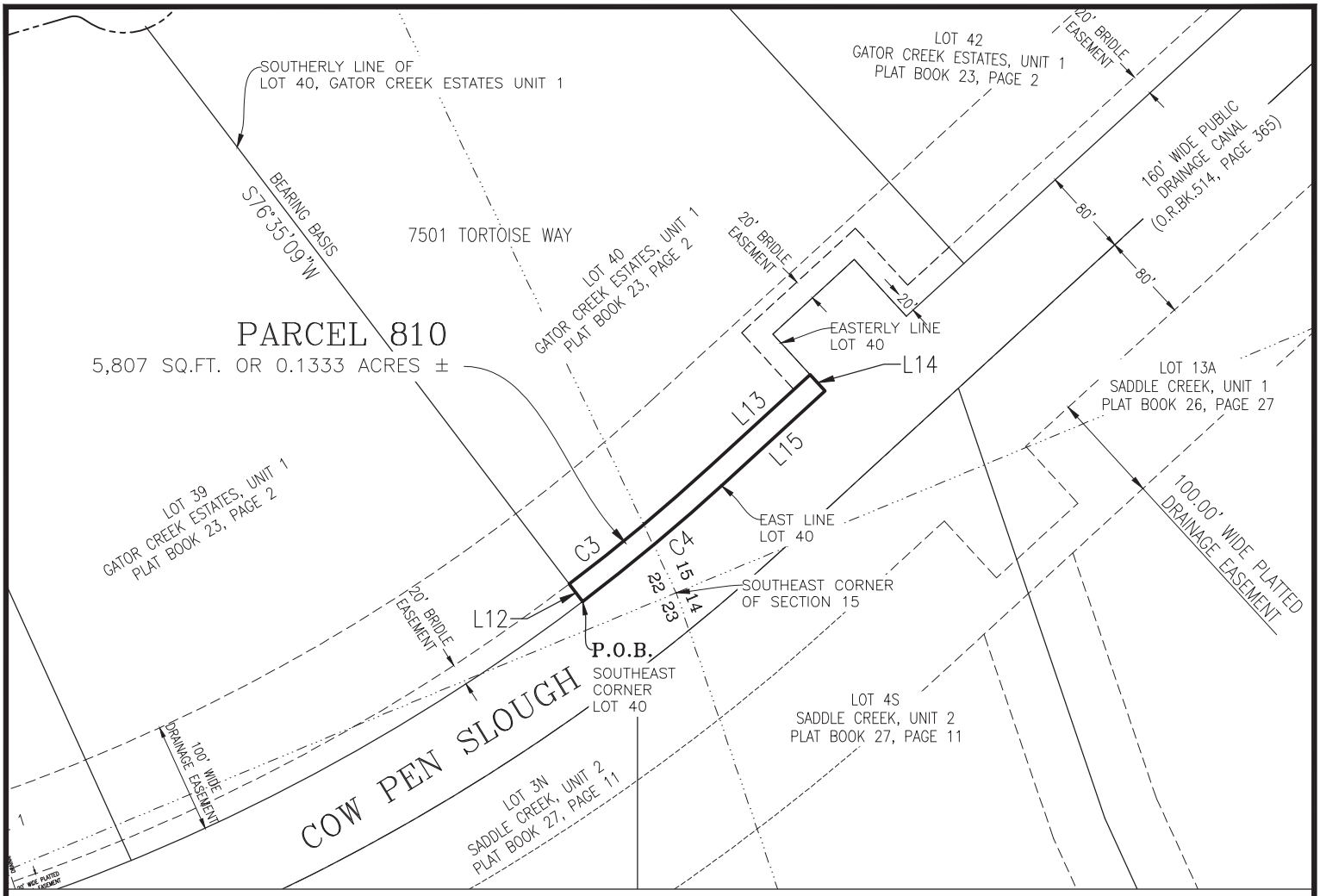
Feb 27, 2023 – 11:19:44 HCASALS|U:\177311750\drawings\survey\drawing\177311750v-spsk10.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 39, GATOR CREEK, UNIT 1, P.B.23, P.2, SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 709

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
6.4.1	JDN	RRC	177311750v-spsk10	177311750	2 OF 2	177311750v-spsk10	



ABBREVIATION LEGEND:
P.B. = PLAT BOOK
P. = PAGE
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK
SQ.FT. = SQUARE FEET

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTH LINE OF LOT 40, GATOR CREEK ESTATES, UNIT 1, BEING S.76°35'09"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A LAND SURVEY.

PERMANENT WATER MAIN EASEMENT 1

SCALE: 1"=150'

75' 150'

LINE TABLE		
LINE	BEARING	DISTANCE
L12	S76°35'09"W	20.00'
L13	N18°42'30"W	122.20'
L14	N71°17'30"E	20.00'
L15	S18°42'30"E	122.20'

CURVE TABLE					
CURVE	RADIUS	DELTA	ARC	CHORD	CHORD BEARING
C3	1810.08'	5°17'39"	167.25'	167.19'	N16°03'40"W
C4	1830.08'	5°17'39"	169.10'	169.04'	S16°03'40"E

SEE SHEETS 1-2 FOR SKETCHES
SEE SHEET 3 FOR DESCRIPTIONS

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

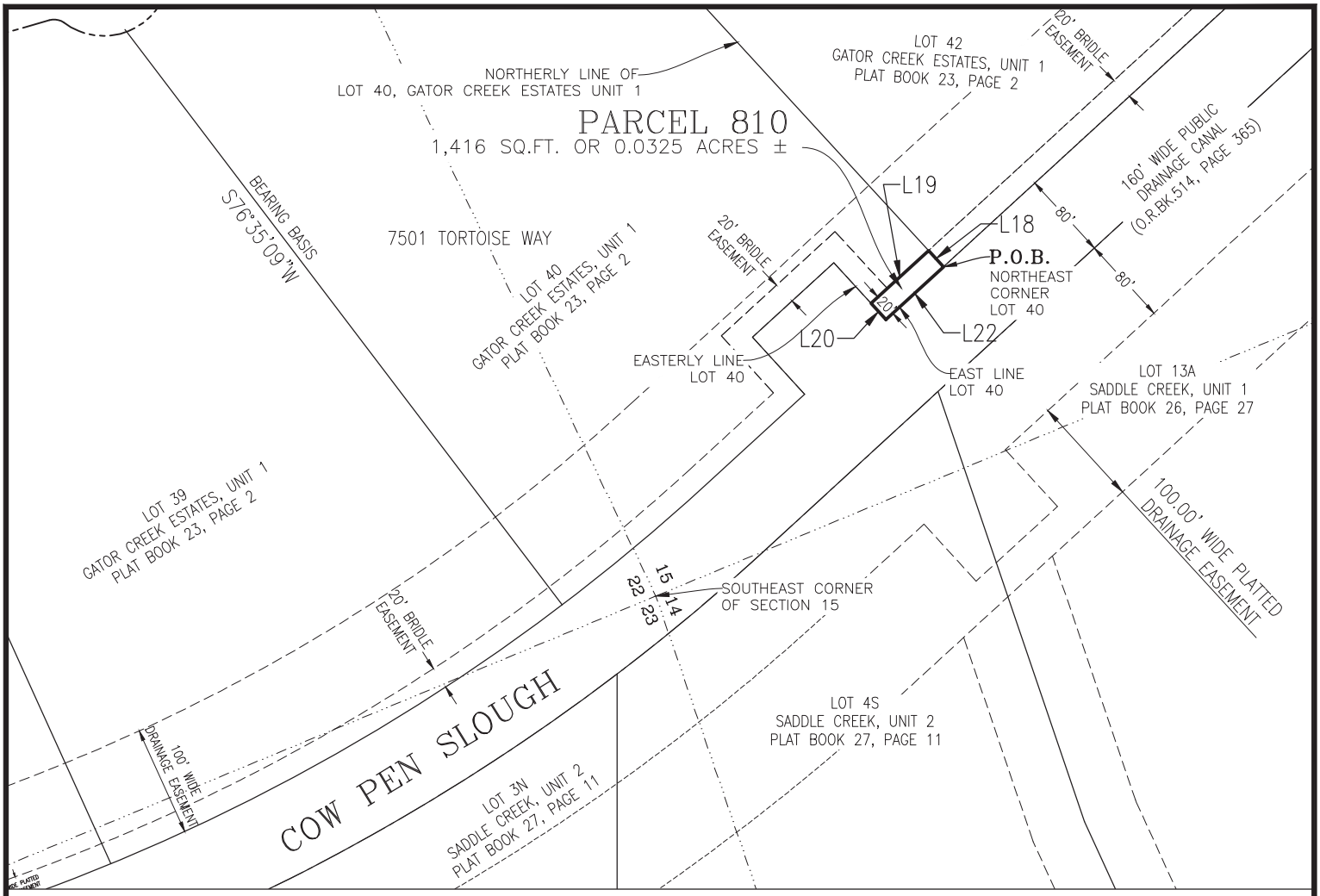
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SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 40, GATOR CREEK ESTATES, UNIT 1, P.B. 23, P. 2, SECTIONS 15 & 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 810

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	AW	JJ	177311750v-spsk11	177311750	1 OF 3	177311750v-spsk11	



PERMANENT WATER MAIN EASEMENT 2

ABBREVIATION LEGEND:
P.B. = PLAT BOOK
P. = PAGE
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK
SQ.FT. = SQUARE FEET

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTH LINE OF LOT 40, GATOR CREEK ESTATES, UNIT 1, BEING S.76°35'09"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A LAND SURVEY.

SCALE: 1"=150'

75' 150'

LINE TABLE		
LINE	BEARING	DISTANCE
L18	N71°17'30"E	20.00'
L19	N18°42'30"W	70.81'
L20	S71°17'30"W	20.00'
L22	S18°42'30"E	70.81'

SEE SHEETS 2–5 FOR SKETCHES
SEE SHEETS 6–7 FOR DESCRIPTIONS

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 40, GATOR CREEK ESTATES, UNIT 1, P.B. 23, P. 2, SECTIONS 15 & 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 810

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	AW	JJ	177311750v–spsk11	177311750	2 OF 3	177311750v–spsk11	

DESCRIPTIONS CONTINUED:

Parcel 1 (Permanent Water Main Easement)

A 20' wide parcel of land lying within Sections 15 and 22, Township 37 South, Range 19 East, being a portion of Lot 40, Gator Creek Estates, Unit 1, as recorded in Plat Book 23, at Page 2, Public Records of Sarasota County, Florida and being more particularly described as follows:

BEGINNING at the Southeast corner of said Lot 40; thence S.76°35'09"W., along the southerly line of said Lot 40, a distance of 20.00 feet to the point of curvature of a non–tangent curve to the left having a radius of 1,810.08 feet and a chord bearing and distance of N.16°03'40"W., 167.19 feet; thence Northerly along the arc of said curve, through a central angle of 05°17'39", a distance of 167.25 feet; thence N.18°42'30"W., a distance of 122.20 feet to a point on the easterly line of said Lot 40; thence N.71°17'30"E., along said easterly line, a distance of 20.00 feet to an angle point of the east line of said Lot 40; thence S.18°42'30"E., along said east line, a distance of 122.20 feet to a point of curvature of a curve to the right having a radius of 1,830.08 feet and a central angle of 05°17'39"; thence Southerly along the arc of said curve, a distance of 169.10 feet to the POINT OF BEGINNING.

The above–described parcel contains 5,807 square feet or 0.1333 acres, more or less

Parcel 2 (Permanent Water Main Easement)

A 20' wide strip of land lying within Section 22, Township 37 South, Range 19 East, being a portion of Lot 40, Gator Creek Estates, Unit 1, as recorded in Plat Book 23, at Page 2, Public Records of Sarasota County, Florida and being more particularly described as follows:

BEGINNING at the Northeast corner of said Lot 40; thence S.18°42'30"E., along the east line of said Lot 40, a distance of 70.81 feet to an angle point of said east line; thence S.71°17'30"W., along the easterly line said Lot 40, a distance of 20.00 feet; thence N.18°42'30"W., a distance of 70.81 feet; thence N.71°17'30"E., a distance of 20.00 feet to the POINT OF BEGINNING.

The above–described parcel contains 1,416 square feet or 0.0325 acres, more or less.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:07:39 -05'00'

03/09/2023

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

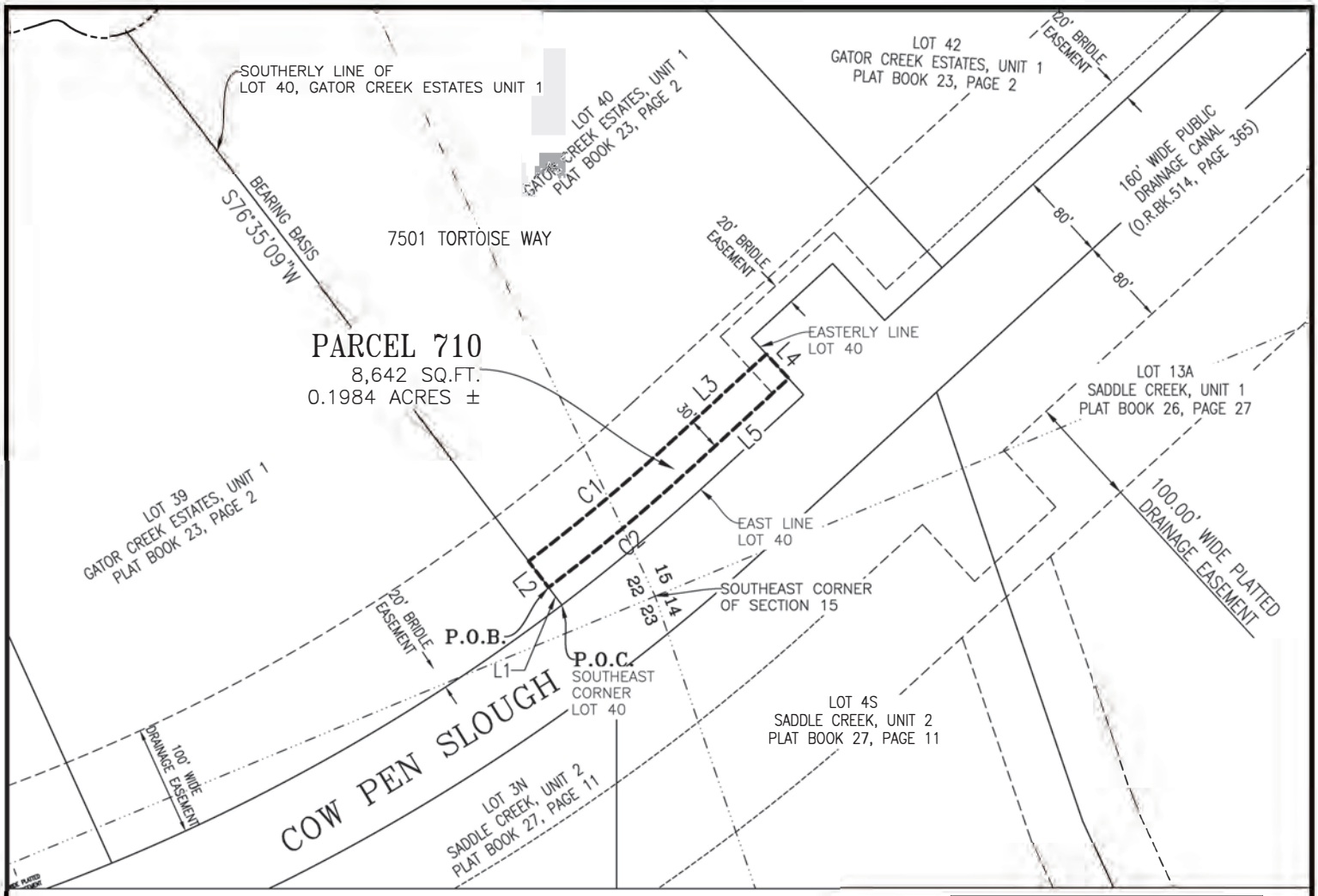
This is NOT a Survey and Not valid without all sheets.

SKETCH & DESCRIPTION OF A WATER MAIN EASEMENT IN LOT 40, GATOR CREEK ESTATES, UNIT 1, P.B. 23, P. 2, SECTIONS 15 & 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 810

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	AW	JJ	177311750v–spsk11	177311750	3 OF 3	177311750v–spsk11	



ABBREVIATION LEGEND:
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PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK
SQ.FT. = SQUARE FEET

TEMPORARY WATER MAIN EASEMENT 1

SCALE: 1"=150'

0' 75' 150' 300'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTH LINE OF LOT 40, GATOR CREEK ESTATES, UNIT 1, BEING S.76°35'09"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A LAND SURVEY.

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S76°35'09"W	20.00'
L2	S76°35'09"W	30.00'
L3	N18°42'30"W	122.20'
L4	N71°17'30"E	30.00'
L5	S18°42'30"E	122.20'

CURVE TABLE					
CURVE	RADIUS	DELTA	ARC	CHORD	CHORD BEARING
C1	1780.08'	5°17'39"	164.48'	164.42'	N16°03'40"W
C2	1810.08'	5°17'39"	167.25'	167.19'	S16°03'40"E

SEE SHEETS 2–5 FOR SKETCHES
SEE SHEETS 6–7 FOR DESCRIPTIONS

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY **This is NOT a Survey and Not valid without all sheets.**

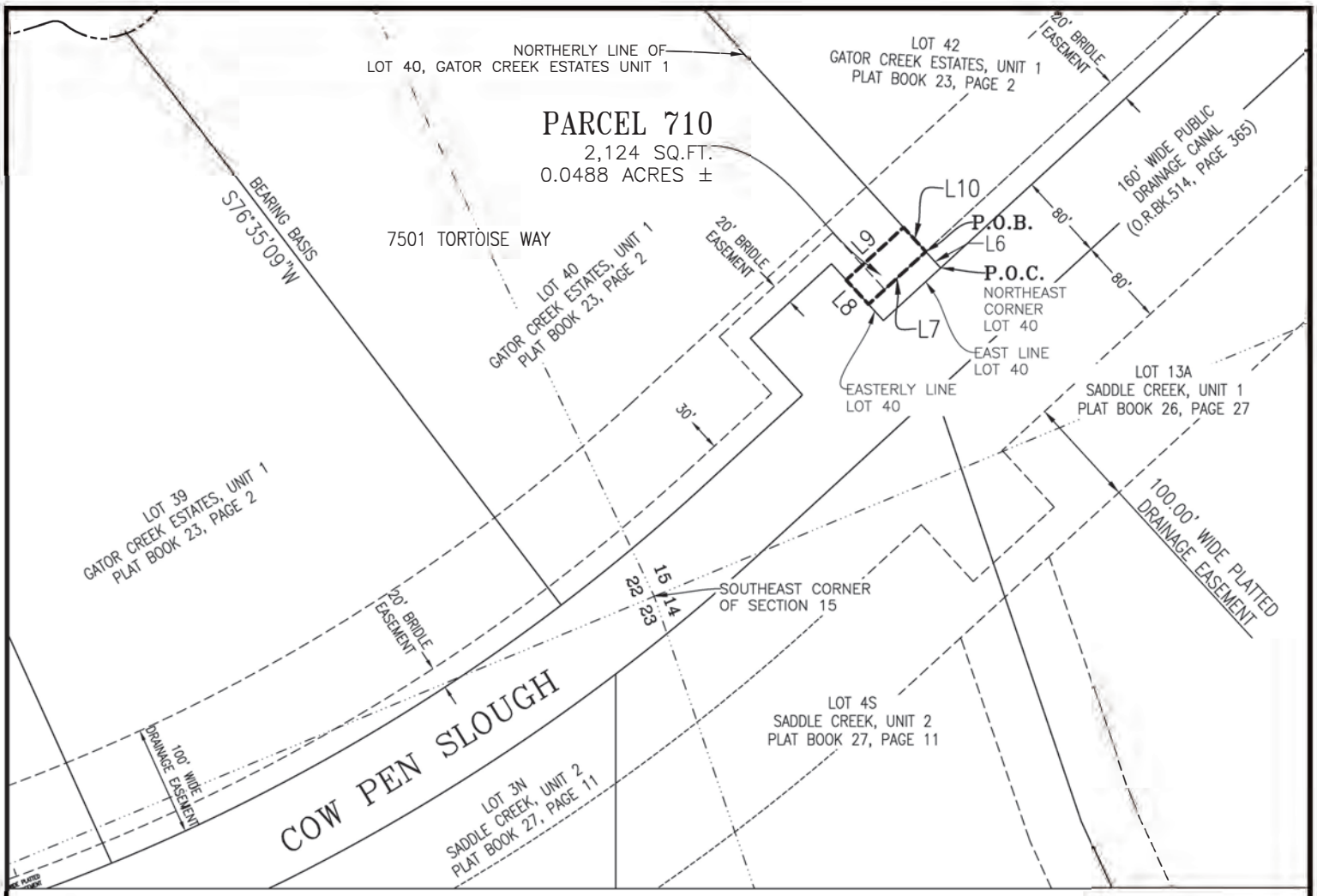
Mar 07, 2023 – 14:54:30 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v–spsk11.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 40, GATOR CREEK ESTATES, UNIT 1, P.B. 23, P. 2 LYING IN SECTIONS 15 & 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 710

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	AW	JJ	177311750v–spsk11	177311750	1 OF 3	177311750v–spsk11	



ABBREVIATION LEGEND:

P.B. = PLAT BOOK
P. = PAGE
P.O.C. = POINT OF COMMENCEMENT
P.O.B. = POINT OF BEGINNING
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK
SQ.FT. = SQUARE FEET

TEMPORARY WATER MAIN EASEMENT 2

SCALE: 1"=150'

75' 150'

LINE TABLE		
LINE	BEARING	DISTANCE
L6	S71°17'30"W	20.00'
L7	S18°42'30"E	70.81'
L8	S71°17'30"W	30.00'
L9	N18°42'30"W	70.81'
L10	N71°17'30"E	30.00'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE SOUTH LINE OF LOT 40, GATOR CREEK ESTATES, UNIT 1, BEING S.76°35'09"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A LAND SURVEY.

SEE SHEETS 2–5 FOR SKETCHES
SEE SHEETS 6–7 FOR DESCRIPTIONS

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY **This is NOT a Survey and Not valid without all sheets.**

Mar 07, 2023 – 14:54:30 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk11.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 40, GATOR CREEK ESTATES, UNIT 1, P.B. 23, P. 2 LYING IN SECTIONS 15 & 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 710

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
2.5	AW	JJ	177311750v-spsk11	177311750	2 OF 3	177311750v-spsk11	

DESCRIPTIONS:

Parcel 1 (TEMPORARY WATER MAIN EASEMENT)

A 30.00 foot wide strip of land lying within Sections 15 and 22, Township 37 South, Range 19 East, being a portion of Lot 40, Gator Creek Estates, Unit 1, as recorded in Plat Book 23, at Page 2, the Public Records of Sarasota County, Florida and being more particularly described as follows:

COMMENCE at the Southeast corner of said Lot 40; thence S.76°35'09"W., along with the southerly line of said Lot 40, a distance of 20.00 feet to the POINT OF BEGINNING; thence continuing S.76°35'09"W., along said southerly line, a distance of 30.00 feet to the point of curvature of a non–tangent curve to the left having a radius of 1780.08 feet and a chord bearing and distance of N.16°03'40"W.,164.42 feet; thence northerly along the arc of said curve through a central angle of 5°17'39", a distance of 164.48 feet; thence N.18°42'30"W., a distance of 122.20 feet to a point on the easterly line of said Lot 40; thence N.71°17'30"E., along said easterly line, a distance of 30.00 feet; thence S.18°42'30"E, departing from said easterly line and running parallel to the East line of said Lot 40, a distance of 122.20 feet to the point of curvature of a curve to the right, having a radius of 1810.08 feet and a central angle of 5°17'39"; thence Southerly along the arc of said curve, a distance of 167.25 feet to the point of beginning.

The above–described parcel contains 8,642 square feet or 0.1984 acres, more or less.

Parcel 2 (TEMPORARY WATER MAIN EASEMENT)

A 30.00 foot wide strip of land lying within Section 22, Township 37 South, Range 19 East, being a portion of Lot 40, Gator Creek Estates, Unit 1, as recorded in Plat Book 23, at Page 2, the Public Records of Sarasota County, Florida and being more particularly described as follows:

COMMENCE at the Northeast corner of said Lot 40; thence S.71°17'30"W., along the northerly line of said Lot 40, a distance of 20.00 feet to the POINT OF BEGINNING; thence S.18°42'30"E., departing said northerly line, a distance of 70.81 feet to a point on the easterly line of said Lot 40; thence S.71°17'30"W., along said easterly line, a distance of 30.00 feet; thence N.18°42'30"W., a distance of 70.81 feet to a point coincident with the north line of said Lot 40; thence N.71°17'30"E., along said north line, a distance of 30.00 feet to the point of beginning.

The above–described parcel contains 2,124 square feet or 0.0488 acres, more or less.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:35:05 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

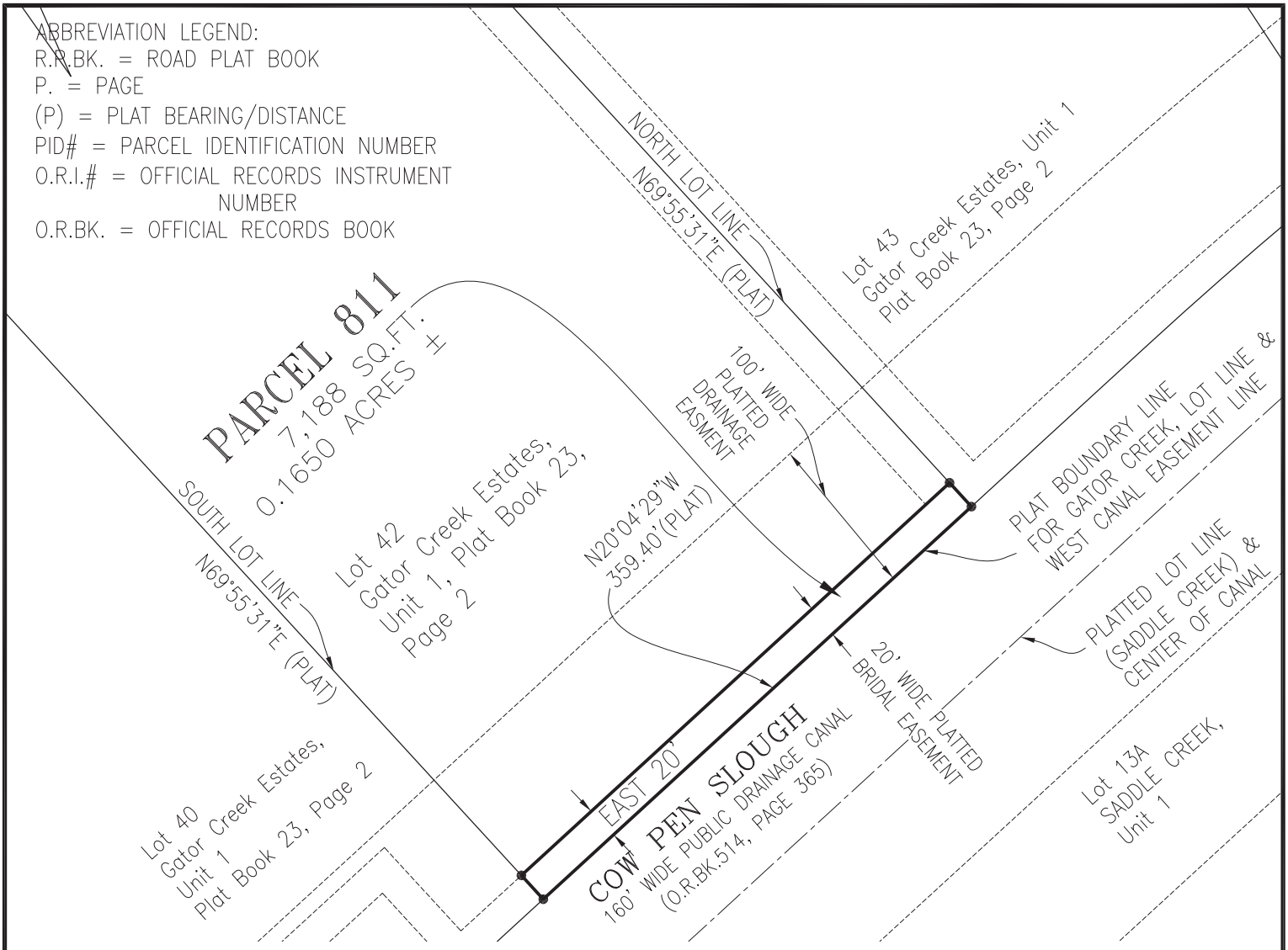
FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 07, 2023 – 14:54:30 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v–spsk11.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 40, GATOR CREEK ESTATES, UNIT 1, P.B. 23, P. 2 LYING IN SECTIONS 15 & 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA			Stantec 6920 Professional Parkway East, Sarasota, FL 34240-8414 *Phone* 941-907-6900 • *Fax* 941-907-6910 Certificate of Authorization #27013 • www.stantec.com Licensed Business Number 7866				PARCEL NO. 710
TASK CODE: 2.5	DRAWN BY: AW	CHKED BY: JJ	CAD FILE: 177311750v–spsk11	PROJECT NO: 177311750	SHEET 3 OF 3	DRAWING INDEX NO: 177311750v–spsk11	REV:

ABBREVIATION LEGEND:
R.R.BK. = ROAD PLAT BOOK
P. = PAGE
(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK



SCALE: 1"=100'

0' 25' 50' 100' 200'

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

The east 20.00 feet of Lot 42, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida and lying in Section 22, Township 37 South, Range 19 East, Sarasota County, Florida.

Said strip contains 7,188 square feet or 0.1650 Acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE PLATTED NORTH LINE OF LOT 42, BEING N.69°55'31"E.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:39:23 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 07, 2023 – 15:42:53 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk12.dwg

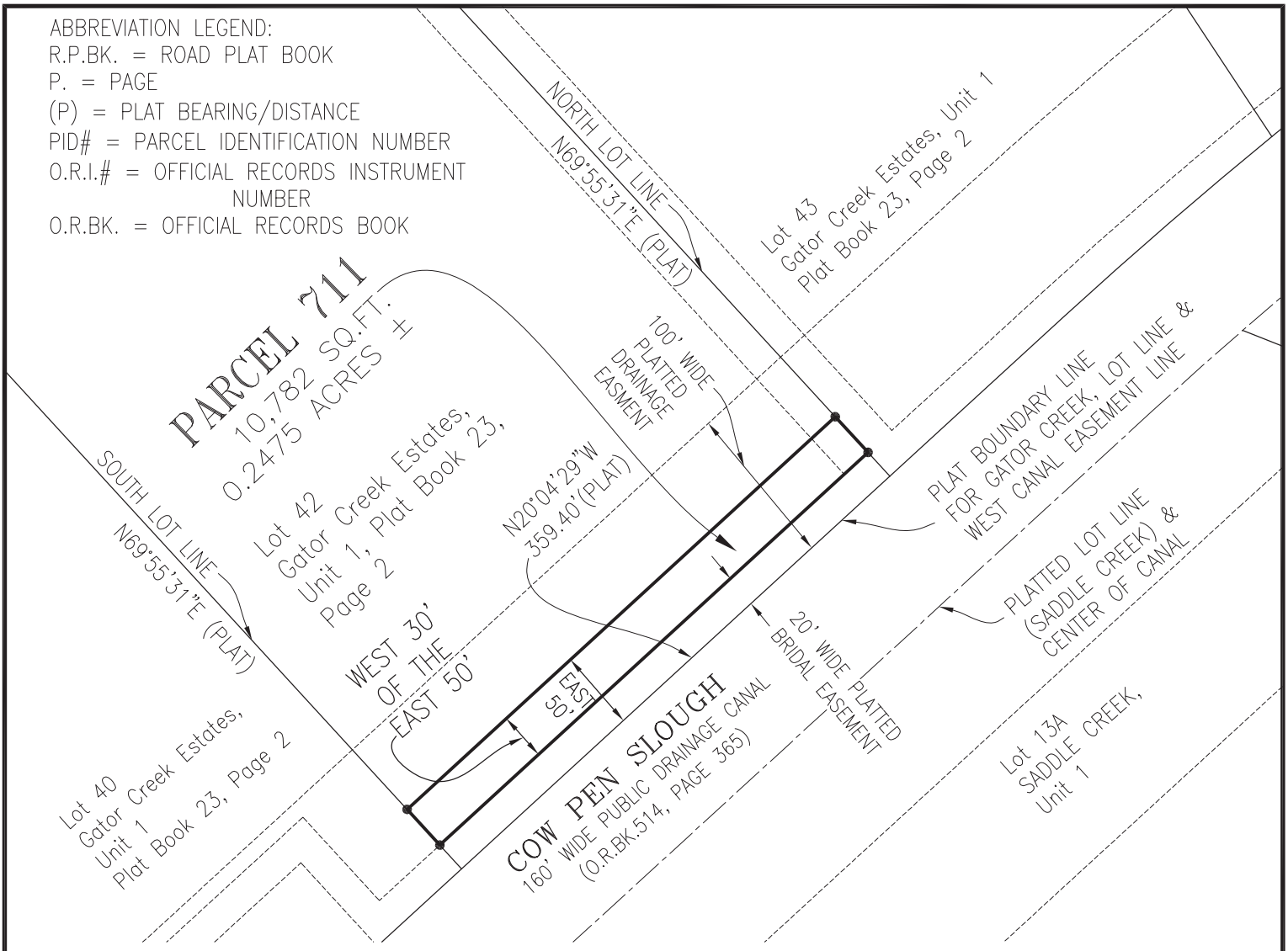
SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 42, GATOR CREEK, UNIT 1, P.B. 23, P.2 IN SECTION 22, TOWNSHIP 37 S., RANGE 19 E. SARASOTA COUNTY, FLORIDA

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PARCEL NO. 811

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
7.4.1	JWB	RRC	177311750v-spsk12	177311750	1 OF 1	177311750v-spsk12	

ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
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(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK



SCALE: 1"=100'

0' 25' 50' 100' 200'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE PLATTED NORTH LINE OF LOT 42, BEING N.69°55'31"E.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

The west 30.00 feet of the east 50.00 feet of Lot 42, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida and lying in Section 22, Township 37 South, Range 19 East, Sarasota County, Florida.

Said strip contains 10,782 square feet or 0.2475 Acres, more or less.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:40:19 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 07, 2023 – 15:29:39 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk12.dwg

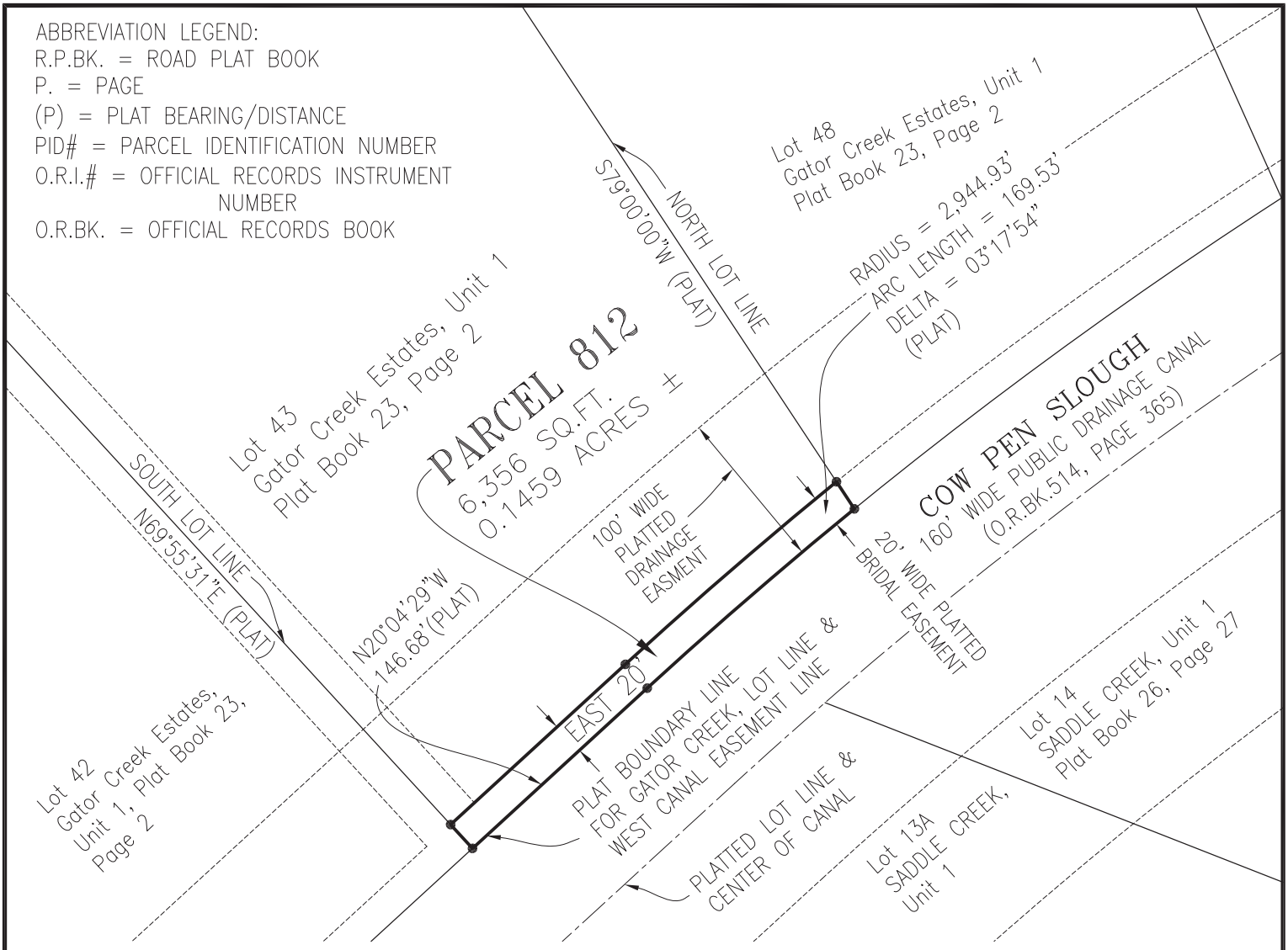
SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 42, GATOR CREEK, UNIT 1, PLAT BOOK 23, PAGE 2 IN SECTION 22, TOWNSHIP 37 S. RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 711

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
7.4.1	JWB	RRC	177311750v-spsk12	177311750	1 OF 1	177311750v-spsk12	

ABBREVIATION LEGEND:
R.P.BK. = ROAD PLAT BOOK
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(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK



SCALE: 1"=100'

0' 25' 50' 100' 200'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE PLATTED NORTH LINE OF LOT 43, BEING S.79°00'00"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

The east 20.00 feet of Lot 43, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida and lying in Section 22, Township 37 South, Range 19 East, Sarasota County, Florida.

Said strip contains 6,356 square feet or 0.1459 Acres, more or less.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:41:20 -05'00'

03/09/2023

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 07, 2023 – 15:57:09 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk13.dwg

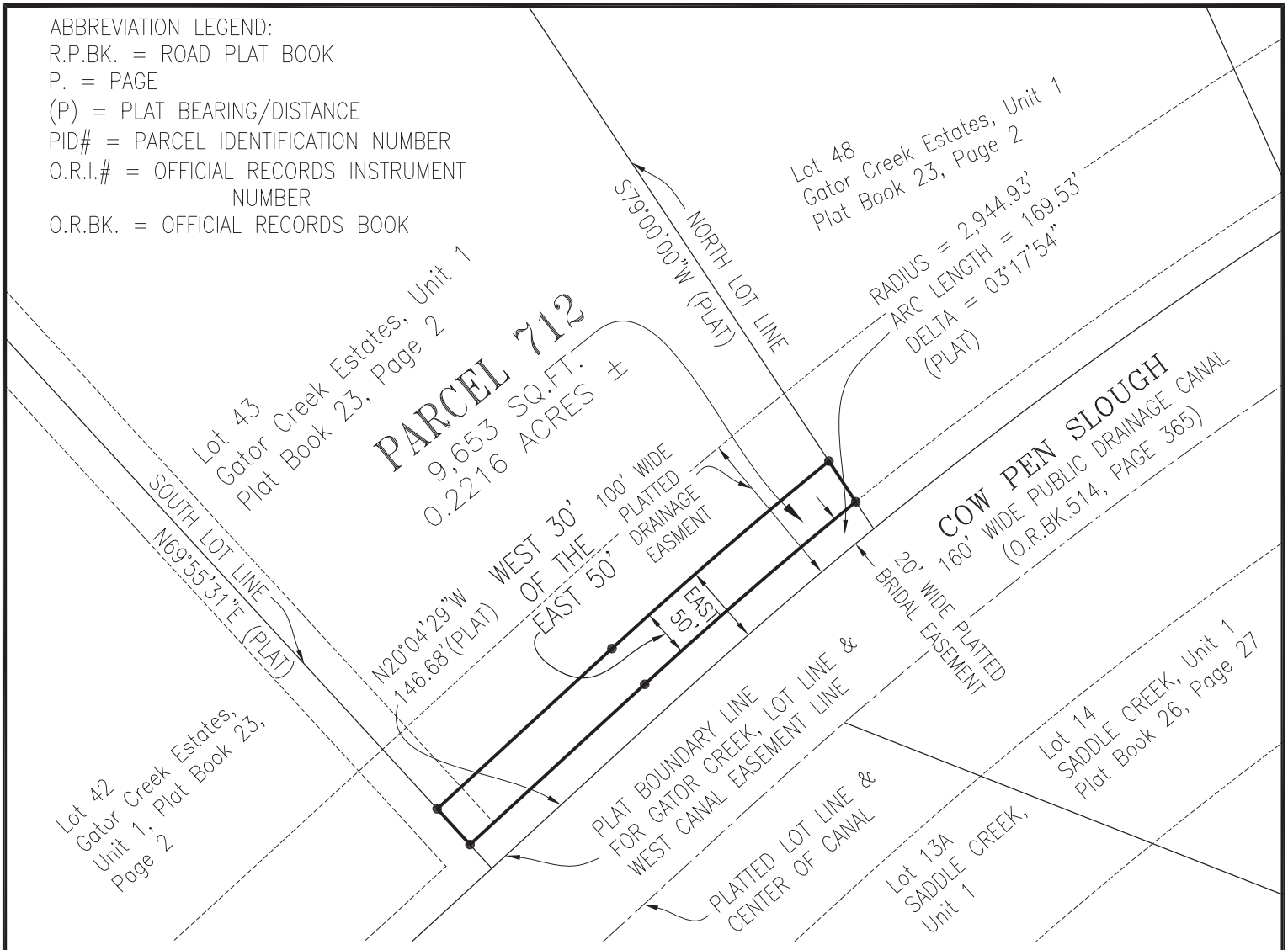
SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 43, GATOR CREEK, UNIT 1, P.B. 23, P.2 IN SECTION 22, TOWNSHIP 37 S., RANGE 19 E. SARASOTA COUNTY, FLORIDA

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PARCEL NO. 812

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
7.4.1	JWB	RRC	177311750v-spsk13	177311750	1 OF 1	177311750v-spsk13	

ABBREVIATION LEGEND:
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PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK



SCALE: 1"=100'

0' 25' 50' 100' 200'

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

The west 30.00 feet of the east 50.00 feet of Lot 43, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida and lying in Section 22, Township 37 South, Range 19 East, Sarasota County, Florida.

Said strip contains 9,653 square feet or 0.2216 Acres, more or less.

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE PLATTED NORTH LINE OF LOT 43, BEING S.79°00'00"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:42:07 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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Mar 07, 2023 – 16:05:51 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk13.dwg

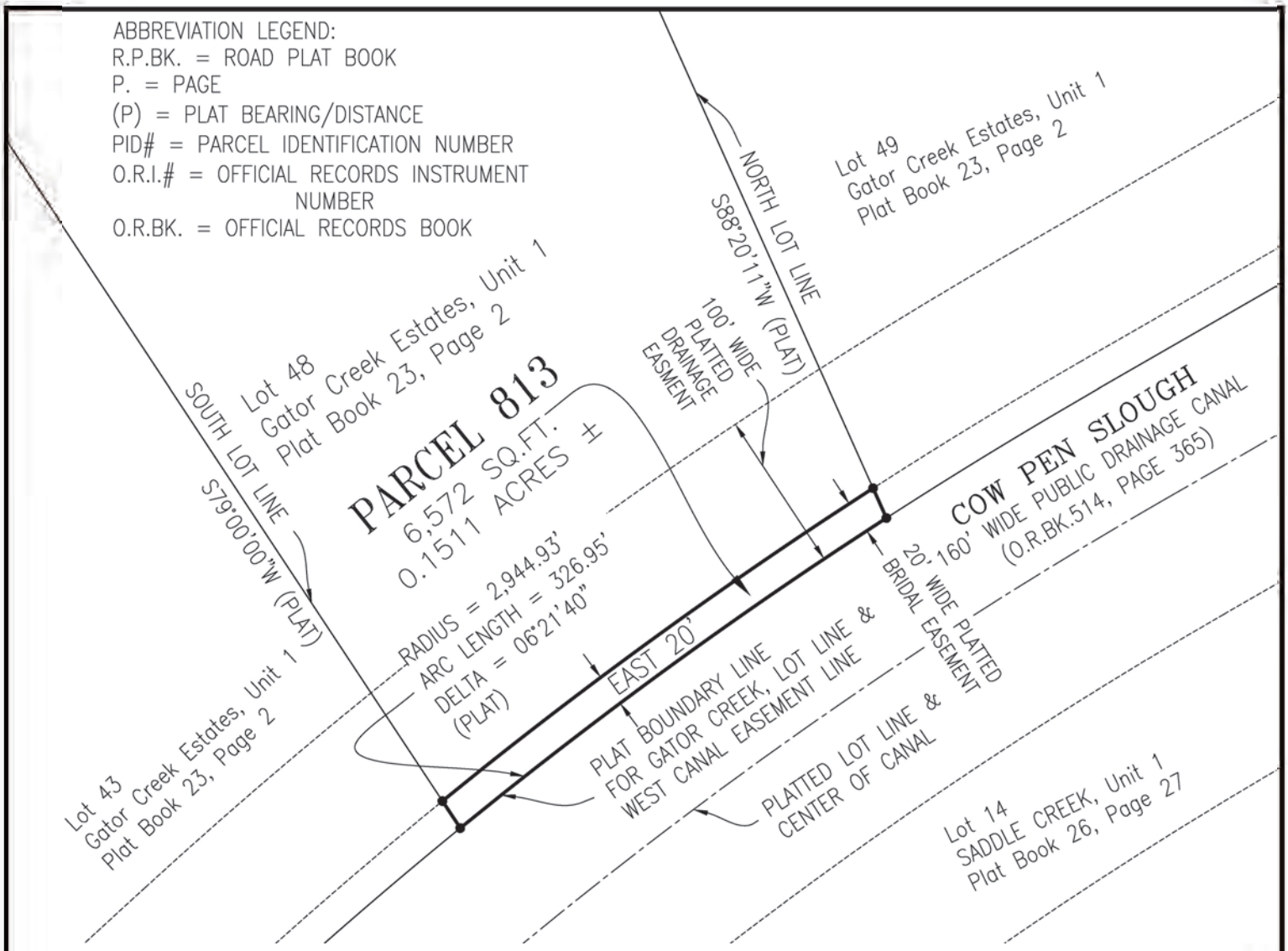
SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 43, GATOR CREEK, UNIT 1, PLAT BOOK 23, PAGE 2 IN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 712

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
7.4.1	JWB	RRC	177311750v-spsk13	177311750	1 OF 1	177311750v-spsk13	

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O.R.BK. = OFFICIAL RECORDS BOOK



SCALE: 1"=100'

0' 25' 50' 100' 200'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE PLATTED NORTH LINE OF LOT 48, BEING S.88°20'11"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

The east 20.00 feet of Lot 48, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2, Public Records of Sarasota County, Florida and lying in Section 22, Township 37 South, Range 19 East, Sarasota County, Florida.

Said strip contains 6,572 square feet or 0.1511 Acres, more or less.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:43:40 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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Mar 07, 2023 – 16:47:10 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk14.dwg

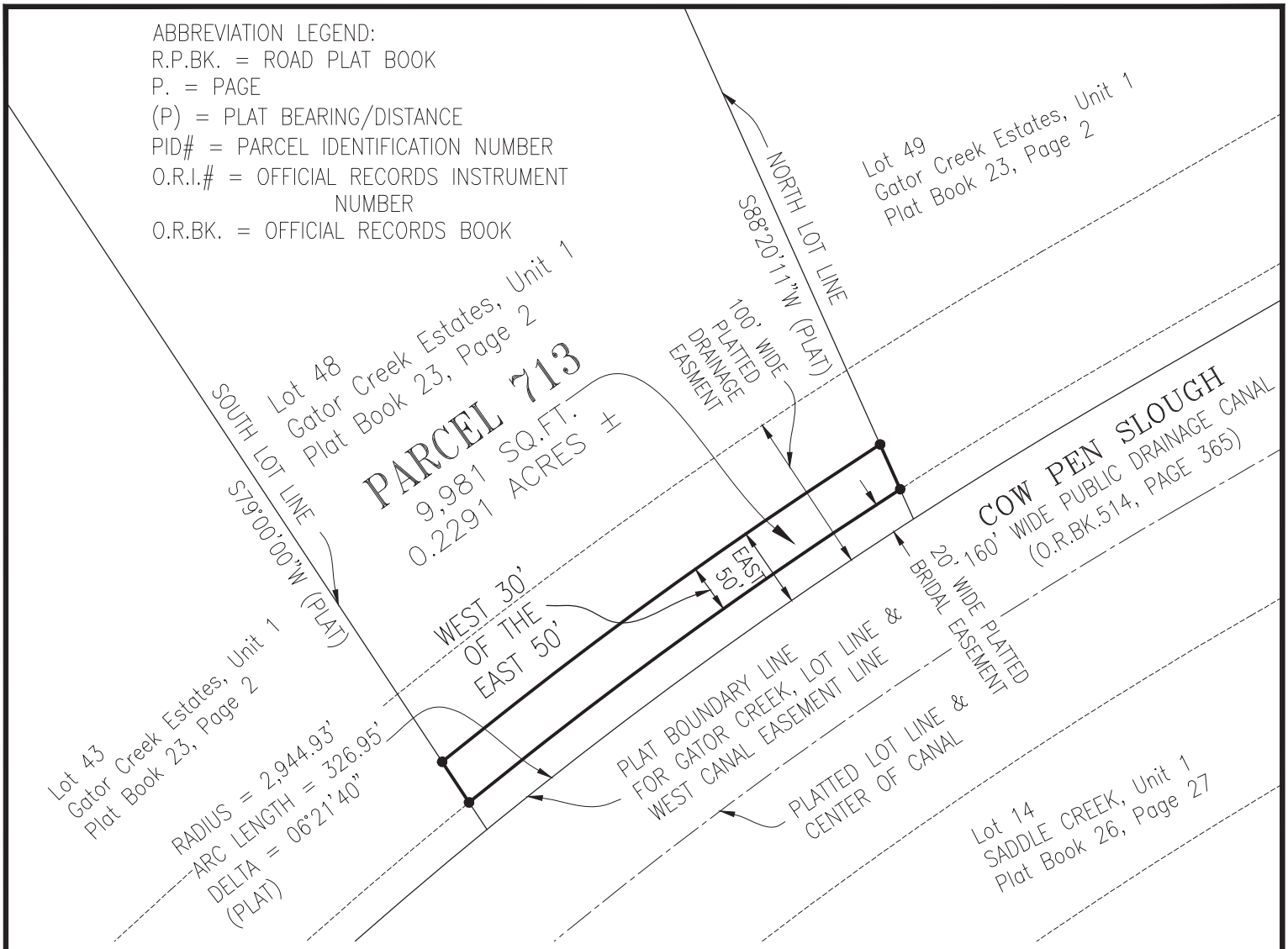
SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 48, GATOR CREEK, UNIT 1, P.B.23, P.2 WITHIN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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PARCEL NO. 813

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
7.4.1	JWB	RRC	177311750v-spsk14	177311750	1 OF 1	177311750v-spsk14	

ABBREVIATION LEGEND:
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(P) = PLAT BEARING/DISTANCE
PID# = PARCEL IDENTIFICATION NUMBER
O.R.I.# = OFFICIAL RECORDS INSTRUMENT NUMBER
O.R.BK. = OFFICIAL RECORDS BOOK



SCALE: 1"=100'

0' 25' 50' 100' 200'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE PLATTED NORTH LINE OF LOT 48, BEING S.88°20'11"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

The west 30.00 feet of the east 50.00 feet of Lot 48, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2, Public Records of Sarasota County, Florida and lying in Section 22, Township 37 South, Range 19 East, Sarasota County, Florida.

Said strip contains 9,981 square feet or 0.2291 Acres, more or less.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 13:15:07 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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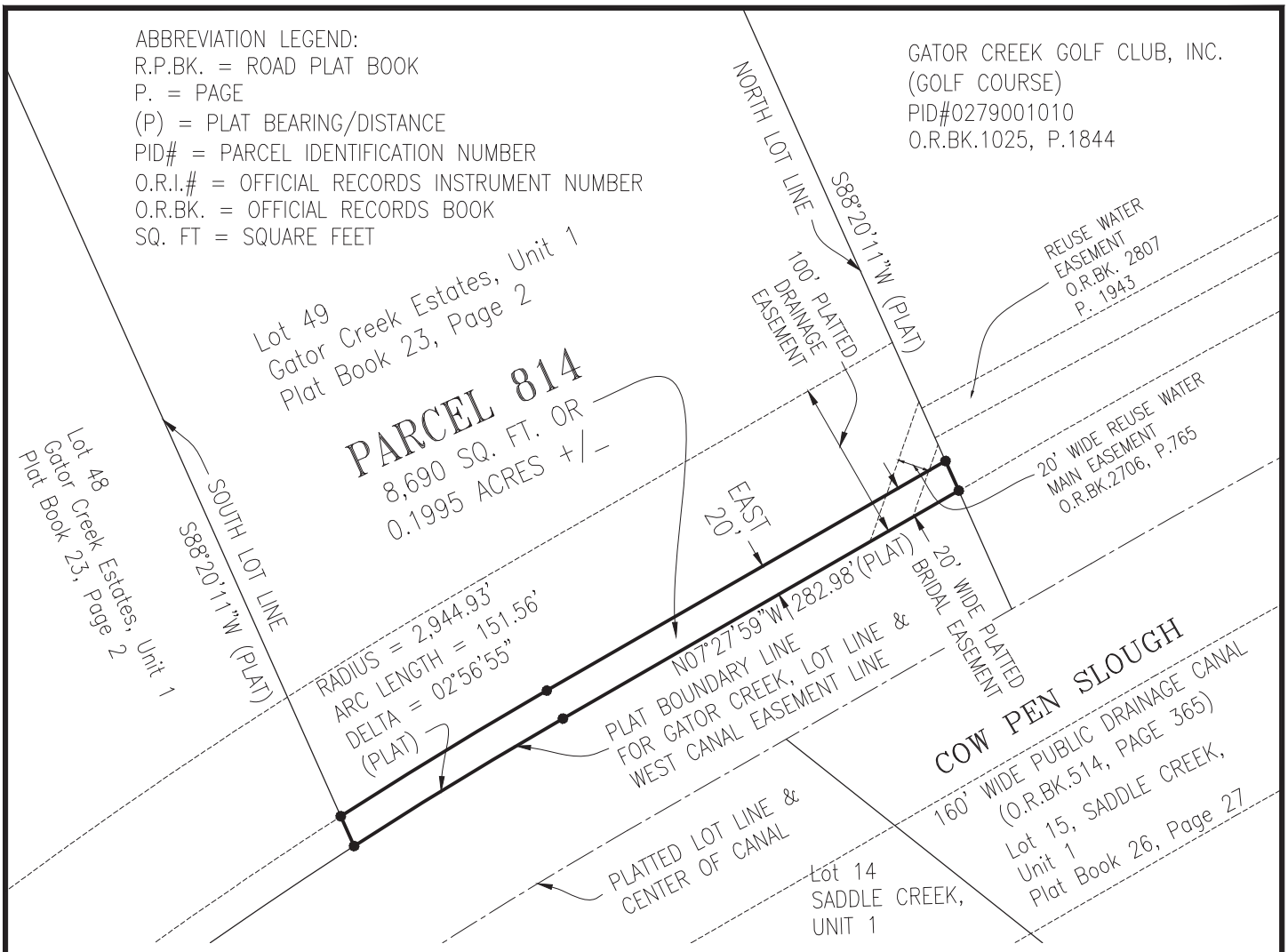
Mar 07, 2023 – 16:56:28 JLOUKE|U:\177311750\drawings\survey\drawing\177311750v-spsk14.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 48, GATOR CREEK, UNIT 1, PLAT BOOK 23, PAGE 2 IN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

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Licensed Business Number 7866

PARCEL NO. 713

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
7.4.1	JWB	RRC	177311750v-spsk14	177311750	1 OF 1	177311750v-spsk14	



SCALE: 1"=100'

0' 25' 50' 100' 200'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE PLATTED NORTH LINE OF LOT 49, BEING S.88°20'11"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

The east 20.00 feet of Lot 49, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida and lying in Section 22, Township 37 South, Range 19 East, Sarasota County, Florida.

Said strip contains 8,690 square feet or 0.1995 Acres, more or less.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:46:57 -05'00'

03/09/2023

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

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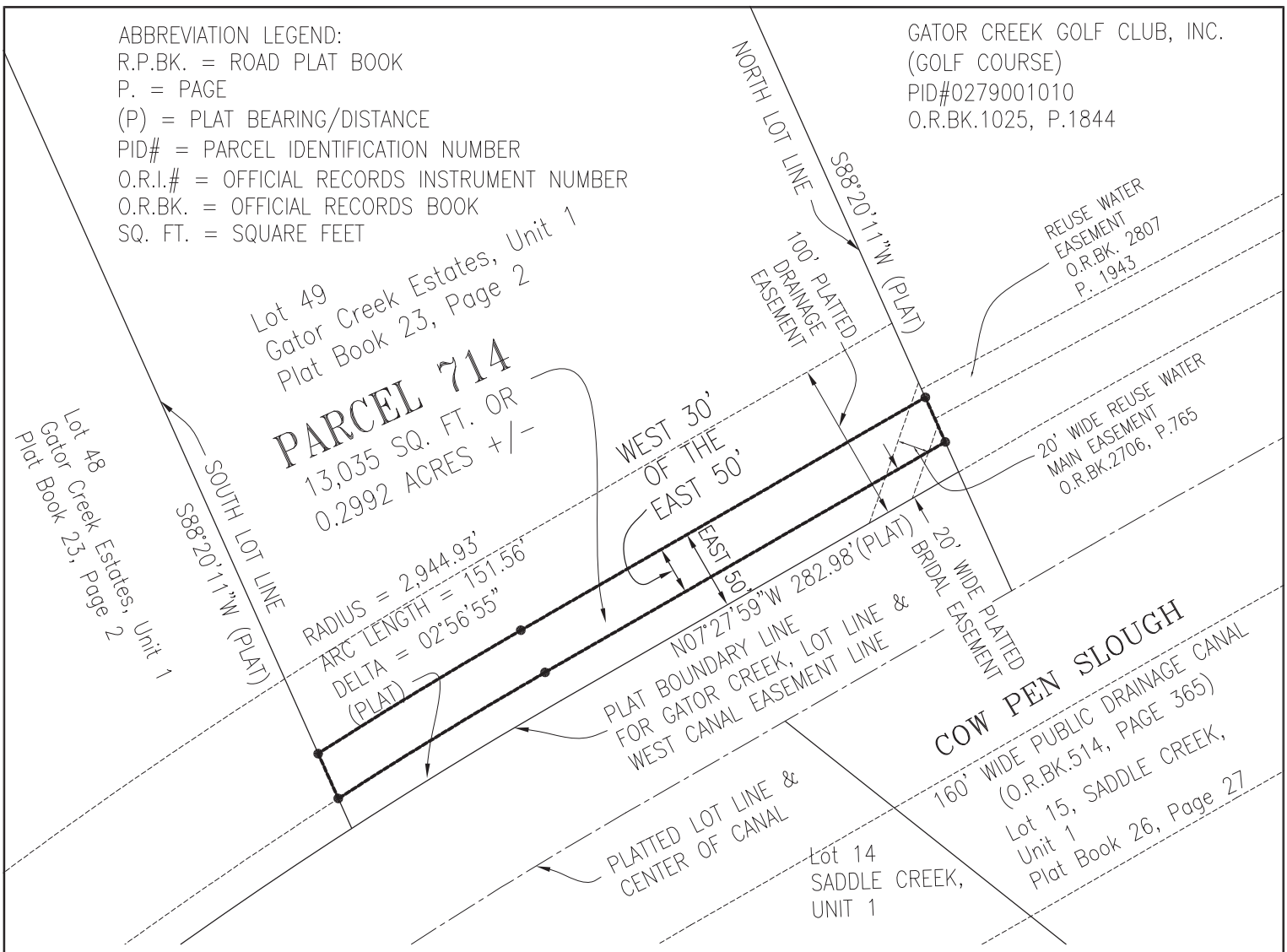
Mar 07, 2023 – 13:03:21 BCUNNINGHAM|U:\177311750\drawings\survey\drawing\177311750v-spsk15.dwg

SKETCH & DESCRIPTION OF A PERMANENT WATER MAIN EASEMENT IN LOT 49, GATOR CREEK, UNIT 1, P.B. 23, P.2 IN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

Stantec
6920 Professional Parkway East, Sarasota, FL 34240-8414
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Licensed Business Number 7866

PARCEL NO. 814

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
7.4.1	JWB	RRC	177311750v-spsk15	177311750	1 OF 1	177311750v-spsk15	



SCALE: 1"=100'

0' 25' 50' 100' 200'

NOTES:
1. NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OR ELECTRONIC SIGNATURE AND SEAL OF A FLORIDA SURVEYOR AND MAPPER.
2. BEARINGS SHOWN HEREON ARE ASSUMED AND RELATIVE TO THE PLATTED NORTH LINE OF LOT 49, BEING S.88°20'11"W.
3. THIS IS A SKETCH ONLY AND DOES NOT REPRESENT A FIELD SURVEY.

DESCRIPTION (as prepared by the certifying Surveyor and Mapper):

The west 30 feet of the east 50.00 feet of Lot 49, Gator Creek Estates, Unit 1 as recorded in Plat Book 23, Page 2 in the Public Records of Sarasota County, Florida and lying in Section 22, Township 37 South, Range 19 East, Sarasota County, Florida.

Said strip contains 13,035 square feet or 0.2992 Acres, more or less.

ROBERT R. CUNNINGHAM LICENSE No. LS3924 STATE OF FLORIDA Professional Surveyor & Mapper

Digitally signed by Robert R Cunningham
Date: 2023.03.09 07:52:51 -05'00'

Robert R. Cunningham, P.S.M.
Florida Registration No. 3924

03/09/2023
Date of Signature

FOR: PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

This is NOT a Survey and Not valid without all sheets.

Mar 07, 2023 – 13:06:24 BCUNNINGHAM|U:\177311750\drawings\survey\drawing\177311750v-spsk15.dwg

SKETCH & DESCRIPTION OF A TEMPORARY WATER MAIN EASEMENT IN LOT 49, GATOR CREEK, UNIT 1, PLAT BOOK 23, PAGE 2 IN SECTION 22, TOWNSHIP 37 S., RANGE 19 E., SARASOTA COUNTY, FLORIDA

Stantec
6920 Professional Parkway East, Sarasota, FL 34240-8414
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PARCEL NO. 714

TASK CODE:	DRAWN BY:	CHKED BY:	CAD FILE:	PROJECT NO:	SHEET	DRAWING INDEX NO:	REV:
7.4.1	JWB	RRC	177311750v-spsk15	177311750	1 OF 1	177311750v-spsk15	

TAB F
AMENDED RESOLUTION NO. 2022-03 EXHIBIT 4

EXHIBIT 4

TERM SHEET FOR EASEMENT INTERESTS AND RIGHTS ACQUIRED BY PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY AND OBLIGATIONS AGREED TO BY PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY FOR THE CONSTRUCTION, OPERATION, MAINTENANCE, INSPECTION, REPAIR, REMOVAL AND REPLACEMENT OF A TRANSMISSION PIPELINE AND APPURTENANT FACILITIES

The following sets forth the easement interests and rights Peace River Manasota Regional Water Supply Authority, (hereinafter "Peace River") shall acquire from the property owners, and lessees and interest holders (hereinafter "Owners") of certain real property described in the attached legal description and survey (Exhibit "A") and the obligations of the Peace River has agreed to comply with in connection with such easement interests and rights:

1. To the extent applicable, the permanent, perpetual, non-exclusive waterline easement interests and rights acquired by Peace River over, above, across, through and under the Owner's property located in Sarasota County, Florida and are further described herein. The applicability of any particular estate shall be determined by those interests and rights described and depicted on Exhibit "1" attached hereto (the "Easement Property").

2. Peace River shall have the right, privilege and easement for and to construct, install, operate, maintain, replace, inspect, patrol, test, repair, relocate, replace, remove, and upgrade an underground pipeline for the purpose of transporting water over, across, through and under the lands hereinafter described (the "Waterline"), along with the installation of appurtenant above-ground and below-ground pipes, valves and equipment (collectively the "Facilities"), for the purpose of transporting water over, above, across, through and under the Easement Property in connecting the Peace River Authority regional delivery system in support of the project identified as the Regional Integrated Loop Phase 3C Pipeline in Sarasota County, Florida.

3. Peace River's easement rights, as described below, may be exercised by Peace River's agents, employees, representatives, licensees, invitees, or such

other persons or entities as Peace River deems necessary. Those rights include the following: , as well as the following:

a. Peace River shall have the perpetual non-exclusive right, privilege and easement for and to construct, install, operate, maintain, replace, inspect, patrol, test, repair, replace, relocate, remove, and upgrade the Waterline and/or Facilities, which Waterline and Facilities which shall be used for the purpose of transporting water over, above, across, through and under the Easement Property.

b. Peace River shall have the right of ingress and egress from the Easement Property by means of the Easement Property and adjacent public or private roadways, easements or rights-of-way owned or held or lawfully available to Peace River, including any other property over which Peace River has access rights.

c. Peace River agrees that no less than fifteen (15) days prior to the replacement, removal or relocation of the Waterline and/or the Facilities, Peace River shall place Owners on notice of the proposed changes to Owners.

d. Peace River shall have the right to excavate and refill ditches and trenches for the location of such Waterline and Facilities and further right to remove fences, tress, bushes, undergrowth, structures and any other obstructions interfering with the location, construction, operation, maintenance, repair, upgrade and replacement of such Waterline and/or Facilities.

e. Peace River shall have the right without liability for damages, but not the obligation, from time to time to re-clear the Easement Property by cutting and removing therefrom trees, brush, and other natural obstructions that may, in the reasonable judgment of Peace River or pursuant to regulatory requirements, injure, endanger or interfere with Peace River's use of the Easement Property.

f. Peace River shall not unreasonably restrict ingress or egress to Owners' property abutting the Easement Property and shall use its best efforts to provide reasonable ingress and egress across the Easement Property for use of Owners. Notwithstanding the foregoing, Peace River shall be permitted to restrict ingress or egress to property abutting the Easement Property for safety purposes only in Peace River's reasonable discretion during periods of construction activity.

Recognizing that the location of the ingress and egress across the Easement Property may change due to construction activities and safety issues during the terms of this Agreement, Owners shall contact Peace River to determine the location of the ingress and egress across the Easement Property prior to accessing the Easement Property.

g. After completion of construction activity, Peace River will remove all construction equipment and unused materials and will re-seed the Easement Property and other areas, if any, disturbed by the construction operations of Peace River. Subject to Peace River's rights hereunder and to the extent not inconsistent therewith, Peace River will restore the surface of all disturbed areas of the Easement Property to pre-construction elevations, contours, grades, and condition, as near as is reasonably practicable.

4. The parties agree that this Agreement is non-exclusive in nature.

5. As to the Permanent Easement, Owner(s) retains the right and may continue to use the Easement Property for any lawful purposes that does not interfere with Peace River's rights acquired hereunder and improvement of such facilities, provided however that Owner(s) shall neither impound water, construct nor permit to be constructed any building, structure or other improvement upon the Easement Property which interferes with the exercise by Peace River of the rights hereby conveyed, including ingress and egress from the Easement Property, and the safe operation of the Waterline. Owner(s) reserves the right to install, subject to the provisions of this Term Sheet, landscaping, roads, driveways, fences and underground utilities and other road paving installations as may be necessary for Owners' development and enjoyment of the remainder property. For safety and for the Peace River's operational purposes, the use of the surface and subsurface of the Easement Property by Owners shall be subject to the following terms, conditions and limitations:

a. Owners shall not enter upon or use the Easement Property while the Waterline and/or Facilities are being constructed, repaired, replaced or upgraded;

b. Owners shall not obstruct or restrict Peace River's use of the Easement Property in any manner.

c. No excavation operations shall be undertaken within the Easement Property without five (5) days prior written notice to the Peace River and to the Florida Sunshine State One Call System or its successor.

d. Construction activities and operations by the Owners on and/or under the Easement Property shall be subject to the prior written approval of Peace River for such operations, which approval shall not be unreasonably withheld.

e. Construction, installation, operation and maintenance activities by the Owner on or across the Easement Property and/or use of the surface or subsurface of the Easement Property shall be in compliance with all applicable statutes, rules, regulations, ordinances and codes of any governmental agency or entity having jurisdiction over the Easement Property and/or the operations being conducted.

f. Installation and construction of any public or private utilities, including but not limited to, water, sewer, gas, electrical, fiber optic and/or telephone which impact or encroach on the Easement Property shall be subject to the following additional specific terms, conditions and limitations: (1) construction and installation of all subsurface utility pipe or cables which cross the Easement Property shall be constructed and installed so as to maintain a separate distance of not less than eighteen inches (18") or state-required minimum separation, whichever is greater, between such pipes and/or cables and Peace River's Waterline pipe, and (2) no utilities shall be installed above the Easement Property or between the surface of the property and the top of the Waterline pipe.

g. Installation and construction of any fences that impact or encroach on the Easement Property, after the initial construction of the Waterline, shall be subject to the following additional specific terms, conditions and limitations: (1) no fence posts for any fences crossing the Easement Property perpendicularly shall be installed closer than ten feet (10') on either side of Peace River's Waterline pipe, and (2) any fences running parallel to the Easement Property shall be installed no closer than ten feet (10') from the Peace River's Waterline pipe. In the event that a fence installed which limit Peace River's access to the Easement Property, a gate shall be installed and Peace River shall be given full and uninterrupted access to the Easement Property via the gate.

h. No construction of new canals, ditches or other open drainage facilities shall be constructed, nor use of explosives, intentional flooding or setting of fires shall be conducted, on or across the surface of the Easement Property without the prior written approval of Peace River;

i. Installation and construction of any public or private roads or streets that impact or encroach on the Easement Property shall be subject to the prior written approval of Peace River for such operations, which approval shall not be unreasonably withheld. Peace River shall have the right to utilize any road or street installed on or across the Easement Property as a means of ingress to, or egress from, the Easement Property from any abutting public right-of-way.

j. Planting and installation of any trees and/or landscaping that impacts or encroaches on the Easement Property, after the initial construction of the Waterline and/or Facilities, shall be subject to the following specific additional terms, conditions and limitations: (1) any trees or shrubbery shall be shallow rooted; and (2) no trees or shrubbery shall be planted any closer than ten feet (10') on either side of any Waterline or Facilities located on the Easement Property.

k. Owners shall be responsible, at the sole cost and expense of Owners, for the repair or maintenance of any roads, streets, fences and/or subsurface utilities (excluding the Waterline and the Facilities), installed on or across the Easement Property and for the care and maintenance of the trees, shrubbery and other landscaping planted by Owners on the Easement Property.

l. Peace River shall be responsible, at the sole cost and expense of the Peace River, for the repair and maintenance of the Waterline and the Facilities installed on or across the Easement Property and for the care and maintenance of the trees, shrubbery and other landscaping planted by Peace River on the Easement Property.

m. Operations by others on the Easement Property shall not impair or interfere with the rights granted to Peace River and shall not require the relocation or lowering of the Waterline pipe, decrease the ground cover of the Waterline pipe or change the contour of the ground surface over the Easement Property unless approved in writing by Peace River.

6. Peace River agrees to provide Owners, either upon Owners' request or at Peace River's option, a prior written determination whether any particular exercise of the right to use the Easement Property by Owners does, or does not directly interfere with the safe and efficient exercise of Peace River's rights, which determination shall not be arbitrarily or unreasonably withheld, conditioned, or delayed.

7. Owners shall not grant an easement on the Easement Property to a third party without the prior written consent of the Peace River. Notwithstanding, Owners may not grant an easement on the Easement Property to a third party which could, may or will negatively impact the Waterline and/or Facilities or Peace River's exercise of its easement rights. Peace River may assign its rights acquired, in whole or in part, and Peace River shall have the right to operate the Waterline and/or Facilities for its own use or to lease, sell, or assign any or all of the Waterline and Facilities or the rights thereto.

8. To the extent applicable, the non-exclusive temporary construction easement interests and rights acquired by Peace River are described herein. The applicability of any particular estate shall be determined by those interests and rights over, above, across, through and under Owner(s)'s property located in Sarasota County, Florida and further described and depicted on Exhibit "1" attached hereto and for the purpose of constructing and installing the Waterline and Facilities over, above, across, through and under certain lands, which easement rights shall be extended to Peace River's agents, employees, licensees, or such other persons or entities as Peace River deems necessary (the "Easement Property").

9. Peace River, its successors and assigns, shall have the right, title and interest for an non-exclusive temporary construction easement and staging area over, above, across, through and under Owner's Easement Property (the "Temporary Construction Property"), for the purpose of constructing and installing the Waterline and Facilities over, above, across, through and under certain lands,

which easement rights shall extend to Peace River's agents, employees, licensees or such other persons or entities as Peace River deems necessary.

10. Peace River's construction activities include, but are not limited to, providing vehicular, equipment, and pedestrian access to the permanent Easement as well as excavating, storing material and equipment, and removing vegetation, structures or fences on the Temporary Construction Property. Notwithstanding the foregoing, if Peace River removes any vegetation or structures from the Temporary Construction Property, Peace River shall permanently remove the dispose of same (if they are not otherwise reinstalled by Peace River), from the Temporary Construction Property. Any excavated materials, the volume of which is substituted by any pipeline and supporting fill material constructed on the Temporary Construction Property, that is not used within the Waterline shall also be permanently removed by Peace River from the Temporary Construction Property before the expiration of this Temporary Construction Easement. In addition:

a) Peace River may clear vegetation, structures or other material as necessary for the installation and construction of the Project.

b) During construction activity, Peace River shall have the right to construct, relocate, maintain and replace fencing on the Temporary Construction Property. Any fencing that is not reinstalled shall be permanently removed by Peace River.

c) Any roadways damaged as a result of the delivery of materials and equipment, and hauling of material shall be the sole responsibility of Peace River to repair and/or restore to pre-existing roadway conditions, or better.

d) During construction activity, Peace River shall not unreasonably restrict ingress or egress to Owners' property abutting the Temporary Construction Property and shall use its best efforts to provide reasonable ingress and egress across the Temporary Construction Property for the use of Owners. Notwithstanding the foregoing, Peace River shall be permitted to restrict (but not deny), ingress and egress to property abutting the Temporary Construction Property for safety purposes

only in Peace River's reasonable discretion during construction activity. Recognizing that the location of the ingress and egress across the Temporary Construction Property may change due to construction activities and safety issues during the term of this Temporary Construction Easement, Owners shall contact Peace River to determine the location of the ingress and egress across the Temporary Construction Property prior to accessing the Temporary Construction Property.

e) After completion of construction activity, Peace River will remove all construction equipment and unused materials and will re-seed the Temporary Construction Property and to the extent disturbed as the result of construction of the Project. Subject to Peace River's rights hereunder and to the extent not inconsistent therewith, Peace River will restore, as near as reasonably practicable, the surface of all disturbed areas of the Temporary Construction Property to pre-construction elevations, contours, grades, and condition, as the continued function and utility of the Temporary Construction Property.

11. The rights of Peace River shall cease and terminate, and all right, title and interest hereby conveyed shall revert to Owners or its successors and assigns, upon the earlier of: (i) two (2) years from the date of a signed agreement or order by this Court granting Peace River its easement rights; or (ii) the recording of a Certificate of Completion of the construction of the Waterline and Facilities by Peace River. If required by environmental permitting or other approvals necessary for the construction of the Project, in those areas of the Temporary Construction Easement which are determined to be jurisdictional wetlands the duration of any Temporary Construction Easement shall be extended for an additional five (5) years for the purpose of access, and required environmental restoration, maintenance and monitoring of the impacted jurisdictional wetlands as required by the permits and approvals associated with the the Project.

12. Owners retains the right and may continue to use the Temporary Construction Easement for any lawful purposes that do not directly interfere with Peace River's rights acquired hereunder.

TAB G
Board Memo on GMP

Date: April 5, 2023

To: Peace River Manasota Regional Water Authority Governing Board

From: Mike Coates, Executive Director

Subject: Guaranteed Maximum Price Contract Amendment for Regional Integrated Loop Phase 3C Pipeline Project

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Background:

In October 2022 the Board approved a progressive design-build contract with Garney Companies, Inc. to begin the design of the Regional Integrated Loop Phase 3C Pipeline Project. The contract, general conditions, and supporting exhibits consist of 146 pages and defines most of how the relationship between the Authority and the Design-Builder (Garney) will operate. As established in that contract, Garney has now provided its Guaranteed Maximum Price (GMP) Proposal to complete design and construction of the project. Authority staff and the Authority's agent, Brown and Caldwell, have reviewed the proposal and have been working with Garney to develop final terms and conditions that will be set forth in a contract amendment that will authorize Garney to move forward with the project.

Key points of the contract amendment include:

- Guaranteed Maximum Price not to exceed $49,933,270.25.
- Clarifications and assumptions concerning materials availability and costs, permits and other governmental approvals, and other matters.
- An itemized list of contingencies and allowances and a process to address them as they arise.
- Identified mitigation measures to minimize risk of additional costs.
- The project initially included booster pump upgrades and new storage tank for Sarasota County. At this time, the County has determined that those components are not needed. Therefore, those components are not included in the GMP Amendment but may be added later for an additional cost if the County determines they are needed.
- Construction is scheduled to begin in April 2023 and is expected to be complete by March 2025.

Staff Recommendation:

Board approval for the Executive Director and General Counsel to finalize and execute a contract amendment with Garney Companies, Inc. to complete design and construction of the Regional Integrated Loop Phase 3C Pipeline Project for a Guaranteed Maximum Price not to exceed $49,933,270.25.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

REGULAR AGENDA
ITEM 6

Regional Integrated Loop Phase 2B Pipeline Early Procurement Package

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Presenter - Mike Knowles, Engineering & Projects Sr. Manager

Recommended Action - **Motion** to authorize the Executive Director to approve the purchase of materials for the Regional Integrated Loop Phase 2B Pipeline not to exceed $20 million dollars for items which are being procured under Section 5.4.4 [Owner Direct Purchasing] of the Authority's Procurement Policy.

The Regional Integrated Loop Phase 2B Pipeline Project includes approximately 13.1 miles of 42-inch diameter pipe in Charlotte County. The pipeline route begins near the western end of the existing Phase 2 pipeline at the intersection of Harbor Boulevard and Veterans Boulevard and extends generally westward, crossing the Myakka River and terminating at the Charlotte County Utilities Gulf Cove Booster Station. The Woodruff and Sons Design-Build Team was approved at the August 3rd Board meeting to deliver the Progressive Design Build Project. The Progressive Design Build delivery method was chosen due to the compressed schedule to have the Project online to meet Charlotte County's needs by March of 2026. The Interlocal Agreement between the Authority and Charlotte County for the Regional Integrated Loop Phase 2B Pipeline Project was also approved by the Board in April of 2022.

The Regional Integrated Loop System Phase 2B Pipeline Project - Phase 1 Scope and Fee for 60% Design Services are intended to develop the design of the pipeline and appurtenances to a 60% design level as well as provide the Authority with a GMP to complete the remaining design, permitting and construction as part of Phase 2 of the Project. In conjunction with these design efforts, to meet a spring 2026 project completion date, it will be necessary for the Authority to directly purchase certain long-lead items for the Phase 2B Regional Interconnect. Owner Direct purchase will include long lead items with a total estimated cost of not-to-exceed $20 Million. The Contractor will solicit bids for these items while meeting the Authority's owner direct purchase policy requirements. Staff recommends Board approval for the owner direct purchase of the early procurement package items as follows not-to-exceed $20 million: steel pipeline (raw materials and finished product), pipe suitable for subaqueous installation under the Myakka River, pipeline valves, yard piping, flow meter, and pipeline appurtenances and authorization for the Executive Director to approve such purchases.

The Regional Integrated Loop Phase 2B Pipeline Project – Phase 2 Contract Addendum for final design, construction permitting, construction, testing, commissioning, turnover services, and development of the GMP is scheduled to be presented for Board consideration and approval at the October 2023 Board Meeting.

Budget Action – None**.** Funds for these materials will come from the Authority's $100M Line of Credit.

Attachments:
Presentation Materials



Peace River Manasota
Regional Water Supply Authority

Regional Integrated Loop Phase 2B Pipeline Early Procurement Package

Regular Agenda Item 6

April 5, 2023



1



01 **Background**

02 **Early Procurement Package**

03 **Next Steps & Schedule**

04 **Motion**

2



01 Background

April 6, 2022
Board Approval of the Preferred Route
Board Approval of the Interlocal Agreement

October 5, 2022, Board Meeting
Board Approval of Phase 1 Contract
Early Procurement Package (Info. Only)

March 15, 2023, Design Milestone
30% Design Deliverable 10 miles

WOODRUFF & SONS
INCORPORATED
Contractors

3



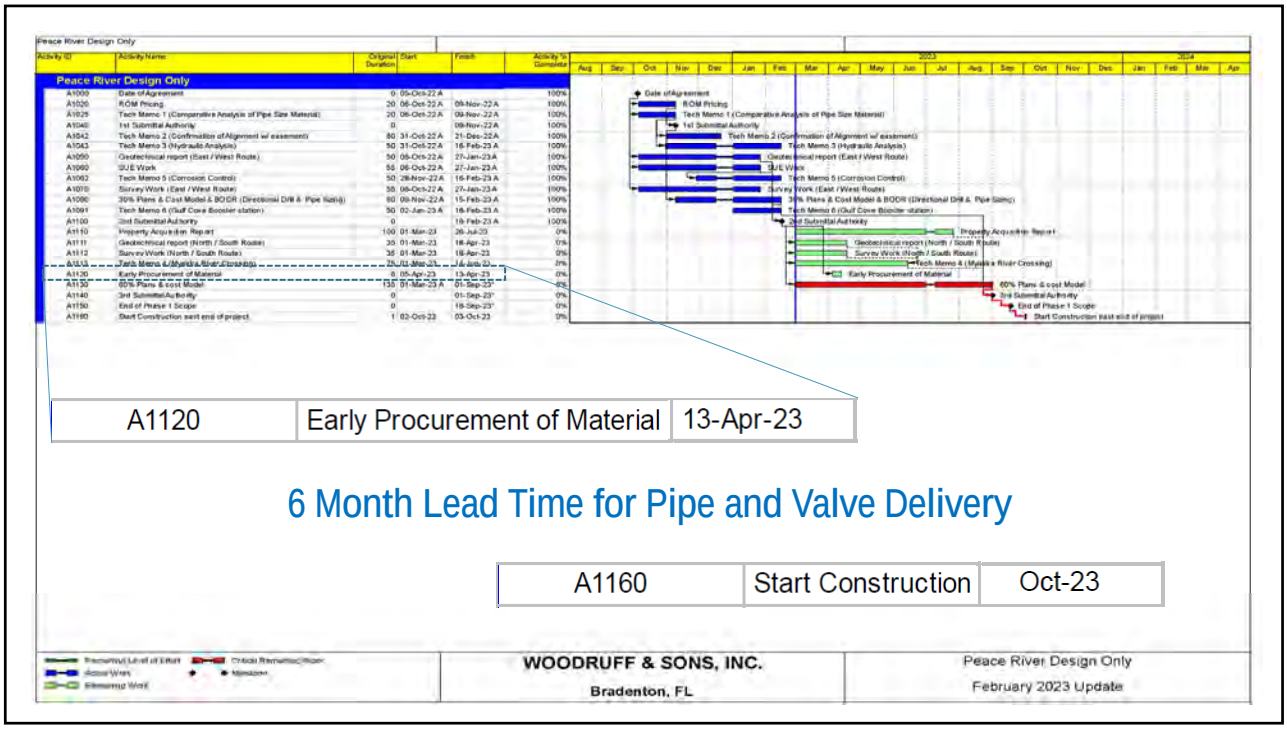
01 Background

02 **Early Procurement Package**

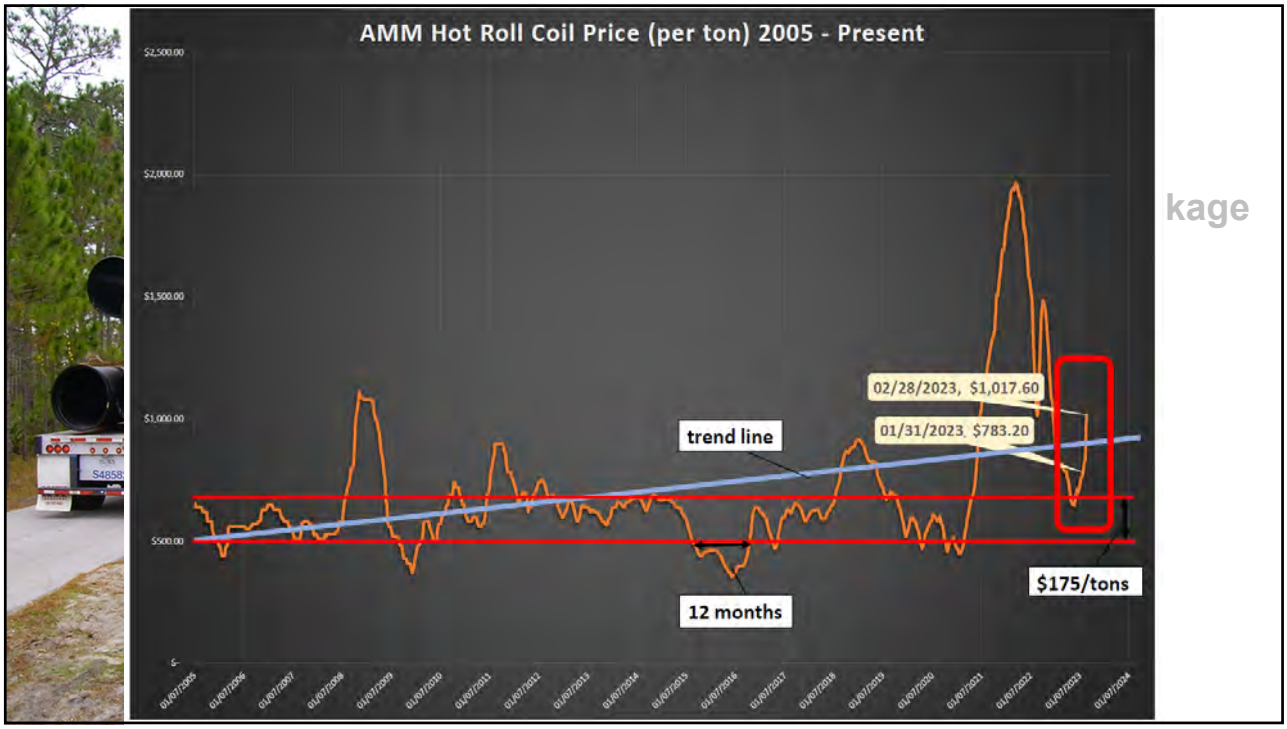
03 Next Steps & Schedule

04 Motion

4


Peace River Design Only
A1120
Early Procurement of Material
13-Apr-23
6 Month Lead Time for Pipe and Valve Delivery
A1160
Start Construction
Oct-23
WOODRUFF & SONS, INC.
Bradenton, FL
Peace River Design Only
February 2023 Update

5


AMM Hot Roll Coil Price (per ton) 2005 - Present
$2,500.00
$2,000.00
$1,500.00
$1,000.00
$500.00
$-
02/28/2023, $1,017.60
01/31/2023, $783.20
trend line
12 months
$175/tons
kage

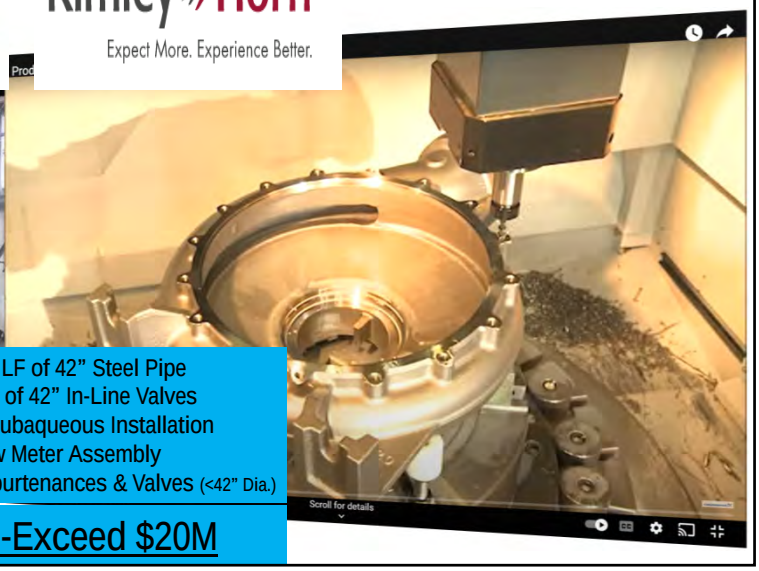
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Progressive Design-Build Early Procurement

WOODRUFF & SONS INCORPORATED Contractors

Kimley»Horn
Expect More. Experience Better.





56,000 LF of 42” Steel Pipe
15 Each of 42” In-Line Valves
Pipe for Subaqueous Installation
Flow Meter Assembly
Yard Piping, Appurtenances & Valves (<42” Dia.)

Not-to-Exceed $20M

7



01 Background

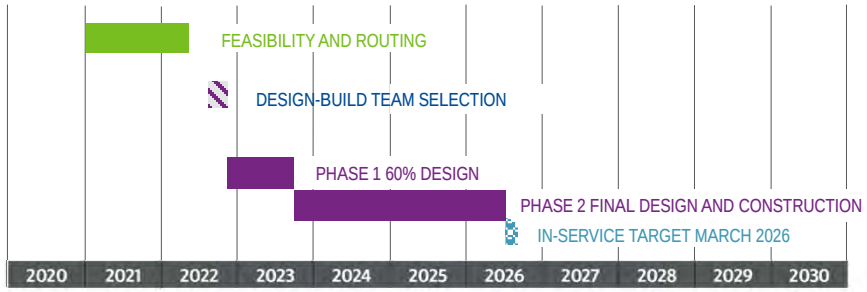
02 Design-Build Team Phase 1 Contract

03 **Next Steps & Schedule**

04 Motion

8

03 Next Steps and Schedule



Pipeline in service by 2026

- ✓ Feasibility and Routing Study Final Report and Board Approval – April 2022
- ✓ Execute Interlocal Agreement with Charlotte County – April 2022
- ✓ Progressive Design-Build Team Selection Process – August 2022
- ✓ Progressive Design-Build Team Phase 1 (60% Design) – October 2022
- ✓ Early Procurement Package – April 2023
- Progressive Design-Build Team Phase 2 (Final Design & Const.) GMP – October 2023
- Final Design and Substantial Construction Completion – March 2026

9



01 Background

02 Design-Build Team Phase 1 Contract

03 Next Steps & Schedule

04 **Motion**

10

04 Motion

Motion: **Motion** to authorize the Executive Director to approve purchase of materials for the Regional Integrated Loop Phase 2B Pipeline not to exceed $20 Million Dollars for items which are purchased under Section 5.4.4 of the Authority's Procurement Policy.

11

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

REGULAR AGENDA
ITEM 7

Peace River Regional Reservoir No. 3 (PR^3) - Project Update

Presenters - Terri Holcomb, Director of Engineering
Katie Duty, Project Manager - HDR

Recommended Action - **Status Update -** This item is presented for the Board's information and no action is required.

The Peace River Regional Reservoir No. 3 Project (PR^3) will develop a new 9 BG off-stream reservoir on the RV Griffin Reserve. The project also includes a new pumping station on the Peace River and pipelines connecting a new pump station with the expanded reservoir system. Work Order No. 1, the Feasibility and Siting Phase for the Project is complete, and the Consultant, HDR Engineering, Inc. (HDR), presented their findings and recommendations for the sizing, siting, and configuration of the project components to the Board at the December 1, 2021, meeting. At the February 2, 2022, meeting, the Board approved HDR to proceed with the Preliminary Design, Permitting, and Third-Party Review Phase of the Project.

Work Order No. 2 'Peace River Regional Reservoir (PR^3) Project Preliminary Design, Permitting and Third-Party Review' advances the project through the preliminary design phase and includes robust geotechnical, surveying, and bathymetry investigations to inform the design development. This Phase of the project also includes the submittal of the Environmental Resource Permit (ERP) and 404 Permit applications which will correlate to approximately 60% design for civil and geotechnical disciplines, with other disciplines developed to approximately 30% level of design. The fee for Work Order No. 2 is $7,249,699.

HDR will provide the second update to the Board on this Phase of the PR^3 project, including an overview of the 30% Design Documents, including the Draft Design Report and updated cost estimates for the project components.

Budget Action: No Action Needed

Attachments:
Presentation Materials



Peace River Manasota
Regional Water Supply Authority

Peace River Regional Reservoir No. 3 (PR^3)

Project Update for Preliminary Design, Permitting and 3rd Party Review Phase

HDR

April 5, 2023

1



01 PR^3 Project Overview

02 Design Updates

03 Preliminary Cost Update

04 Next Steps and Questions

2



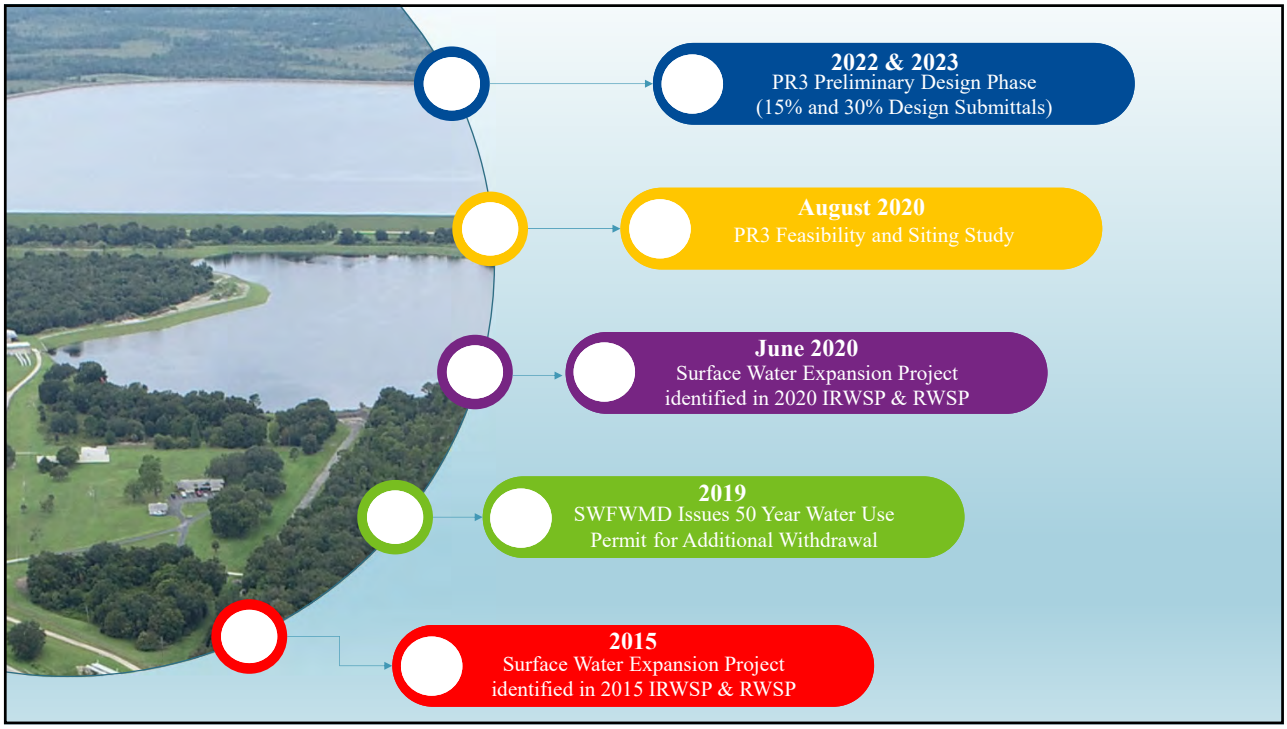
01 PR^3 Project Overview

02 Design Updates

03 Preliminary Cost Estimate

04 Next Steps and Questions

3



4

Surface Water System Expansion Project

Peace River Regional Reservoir No. 3 (PR3)



- New 9 BG Reservoir
- New River Intake & Pump Station
- New Reservoir Pump Station
- Conveyance and Interconnection Piping

+

Water Treatment Plant Expansion

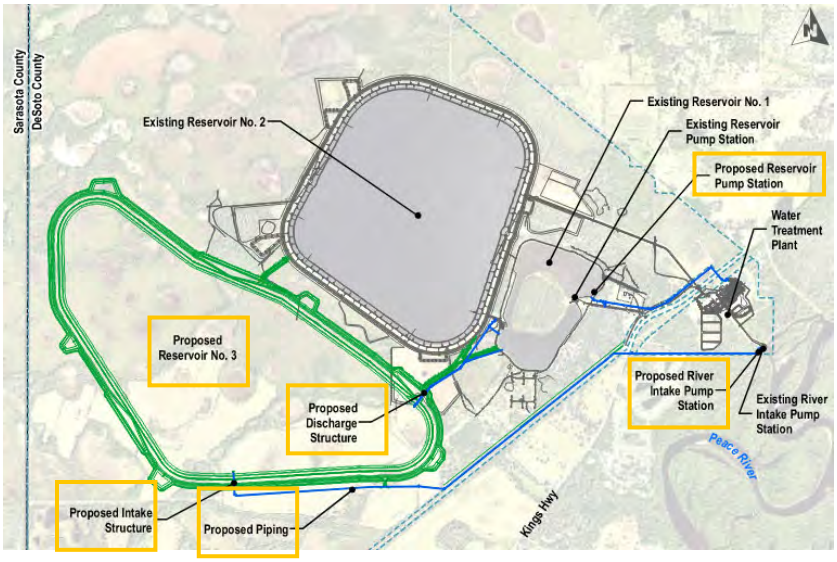


- Adds up to 24 MGD Treatment Capacity
- Conventional & Membrane Options Available

Up to 18 MGD Avg Day Yield

5

Peace River Regional Reservoir 30% Design

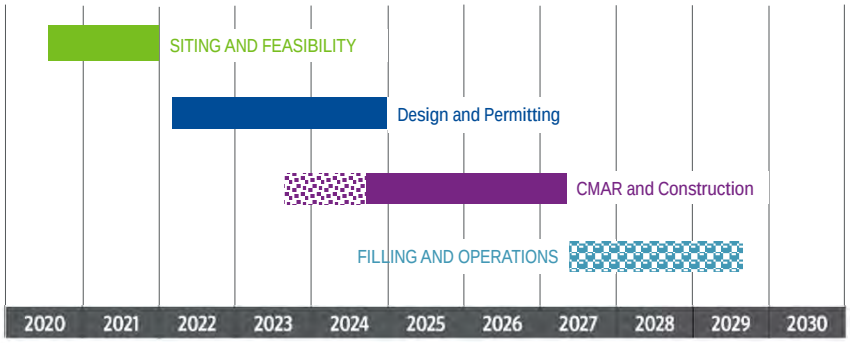


Project features include:

- New 9-billion-gallon reservoir
- New river intake pump station
- Raw water piping connecting new infrastructure to existing
- New pump station from Reservoir No. 1 to the treatment plant & rehab of existing pump station

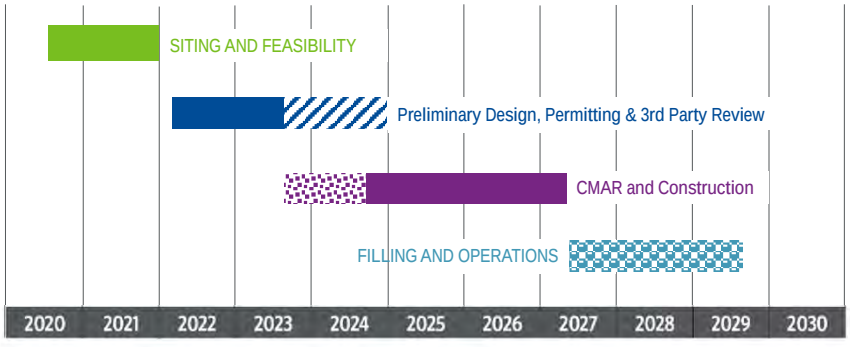
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Project Anticipated to be Online for the 2027 Wet Season



7

Project Anticipated to be Online for the 2027 Wet Season



- Phase began March 2022, concludes September 2023
- Provides preliminary design for project features (location, size and configuration)
- Permit applications submitted by September 2023
- Updates cost estimates for construction

8



01 PR^3 Project Overview

02 **Design Updates**

03 Cost and Schedule

04 Next Steps and Questions

9

Design Updates

Major components included in 30% Design Milestone:

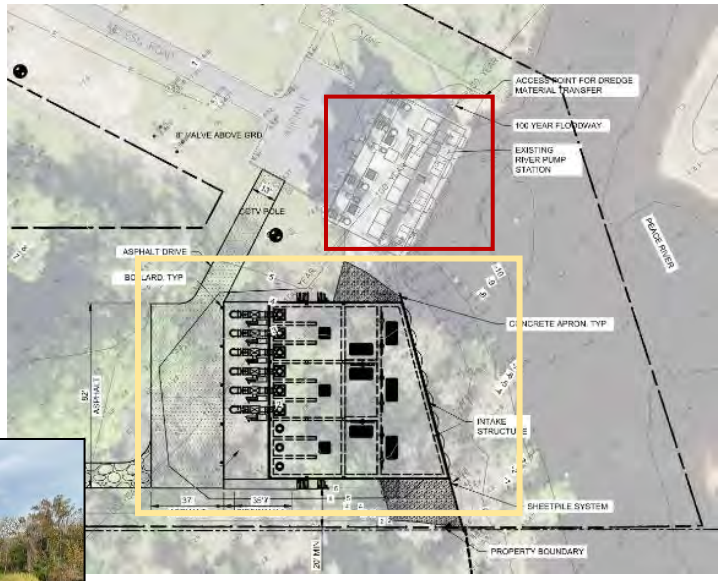
- 5 Miles of 42-foot-high reservoir embankment
- 138 MGD River Intake Pump Station with 6-700 HP pumps
- 78.8 MGD Reservoir Pump Station with 5-200 HP pumps
- Pipelines include:
  - 2.9 miles of 84-inch pipeline from river to Reservoir No. 3
  - 1.9 miles of 54-inch pipeline between Reservoirs and to pump station
  - 0.1 miles of 36-inch pipeline between Reservoir No 2 and Reservoir No. 3
- Other ancillary and appurtenant project features for connection between new infrastructure and existing PRF

10

River Intake & Pump Station

- Located South of the existing station
- Includes 6 pumps for current needs (capacity 138 MGD) and space for future growth to eventually replace the existing capacity

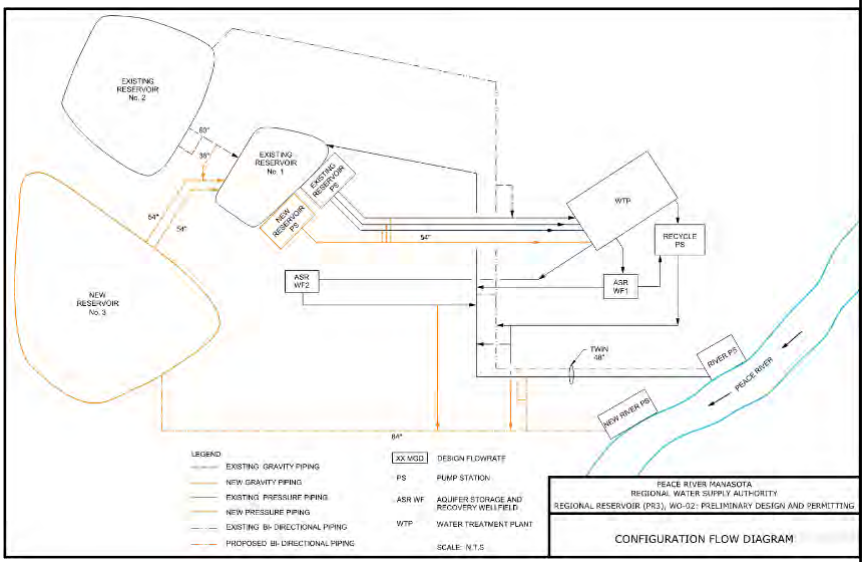




11

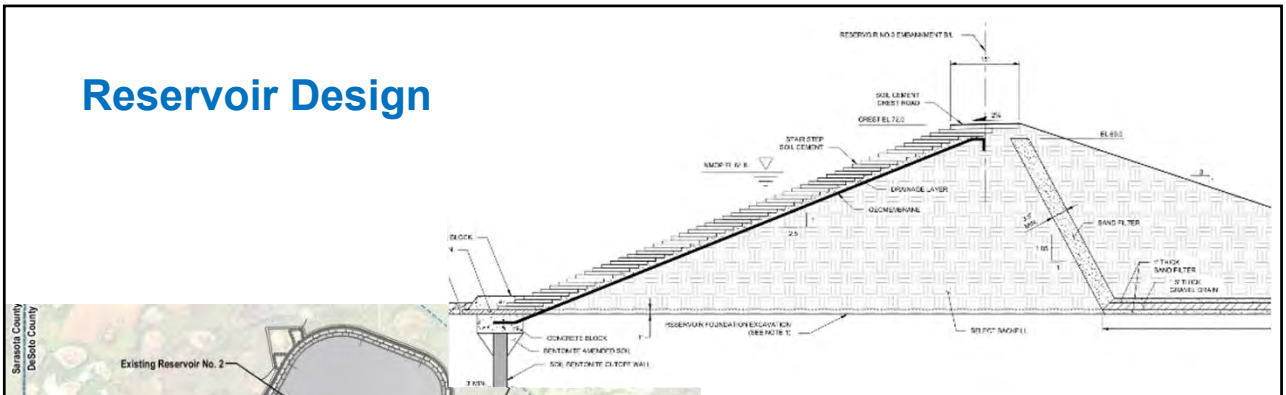
Conveyance Piping

- Evaluated range of solutions with increasing flexibility to move water between storage and the PRF
- Includes two crossings at Kings Highway



12

Reservoir Design



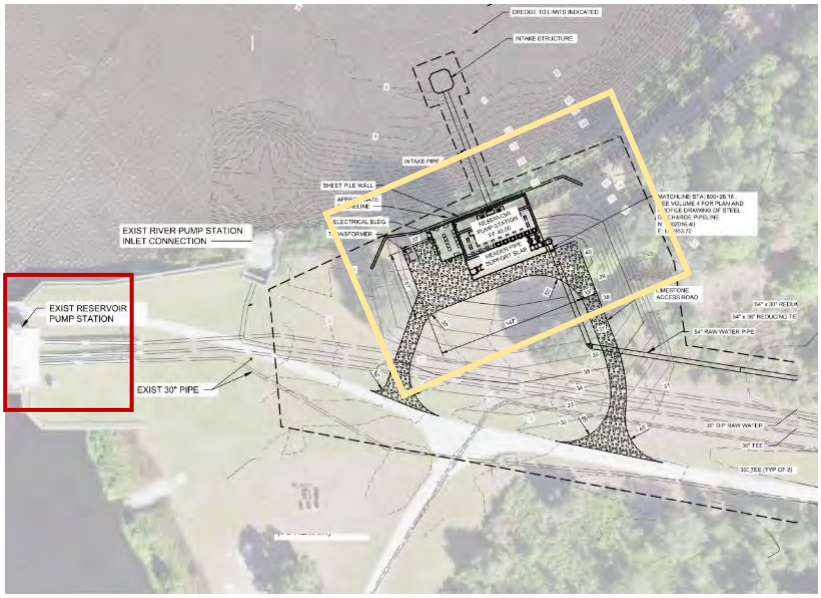


- 9 BG storage volume
- Similar operating range and cross-section as Reservoir No. 2

13

Reservoir Pump Station and Intake

- Includes 5 pumps (total capacity 78.8 MGD)
- Location supplements existing pump station to allow water to be pulled from different sides of Reservoir No. 1
- Allows for maintenance of operations during construction
- Provides for future projects by rehabilitating the existing pump station



14

Site Characterization

Field activities:

- Monitoring Wells – installed and data being collected
- Borings & CPTs – completed except for River Intake Pump Station area
- Soil testing data analysis – most complete, some being processed
- Site topographic survey – in progress
- Bathymetric survey – completed
- Geophysical investigation – field work completed, data being processed



15

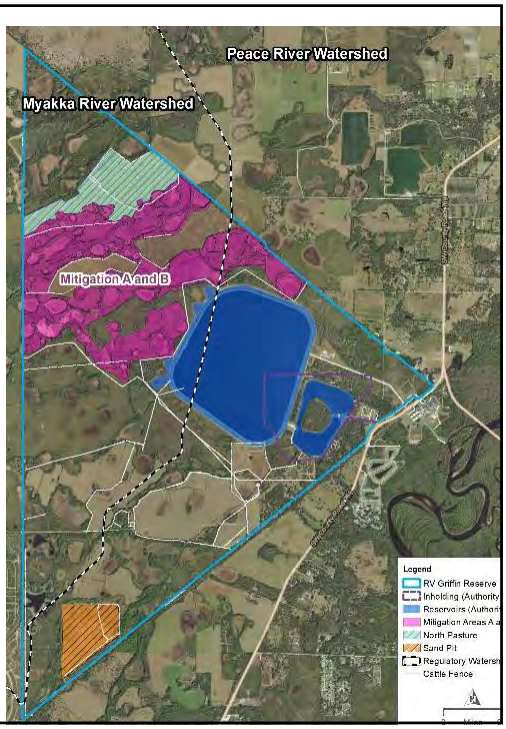
Environmental

Wetland Mitigation:

- Mitigation needed for herbaceous and forested wetlands in both Myakka and Peace Basins.
- Footprint avoids some high-quality forested wetlands
- Evaluating range of solutions including combinations of:
  - Maximizing on-site wetland creation
  - Purchase bank credits, as needed

Species Investigation

- Endangered and Threatened species surveying and agency coordination ongoing



16

Wetland Mitigation – Current Estimates

- All wetlands in vicinity of reservoir, pipelines and pump stations have been delineated

Estimates of Functional Loss	
	30% Design
Forested	
Myakka	15.4
Peace	8.8
Subtotal of Forested	24.2
Herbaceous	
Myakka	109.9
Peace	28.7
Subtotal of Herbaceous	138.6



17

Permitting

- Pre-application meetings with FDEP and USACE – ongoing
- Conceptual permit application to FDEP (with wetland delineation verification request) – planned for May 2023
- Technical assistance meetings with USFWS and NMFS – ongoing
- Full ERP Application – September 2023

18



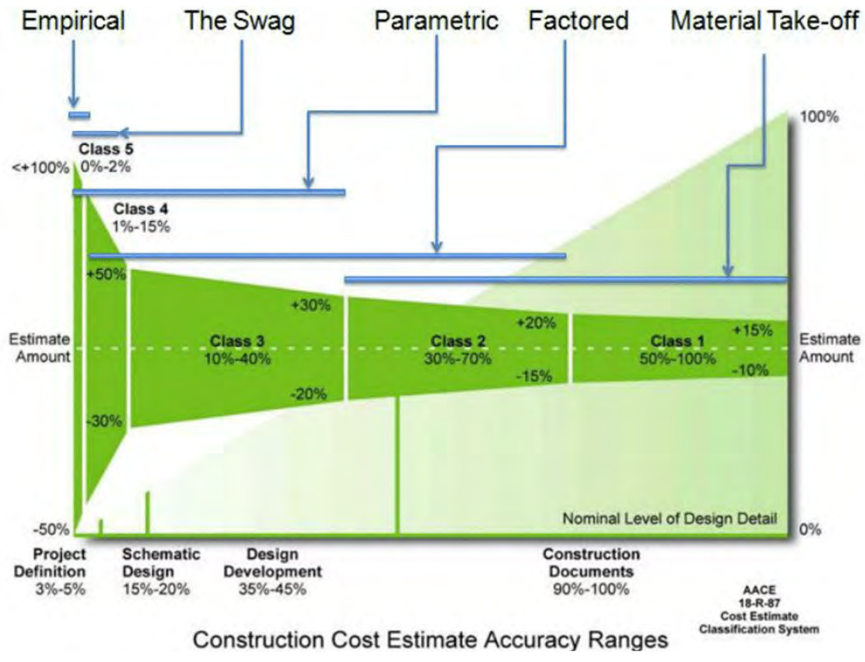
01 PR^3 Project Overview

02 Design Updates

03 Preliminary Cost Update

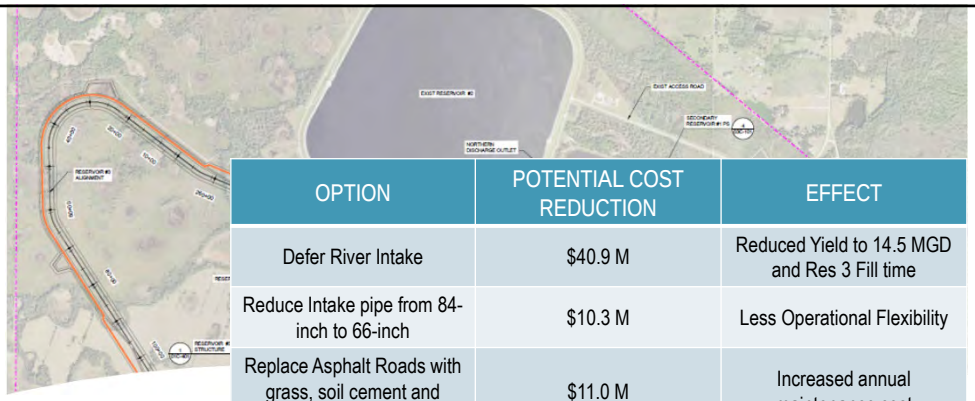
04 Next Steps and Questions

19



Construction Cost Estimate Accuracy Ranges

20

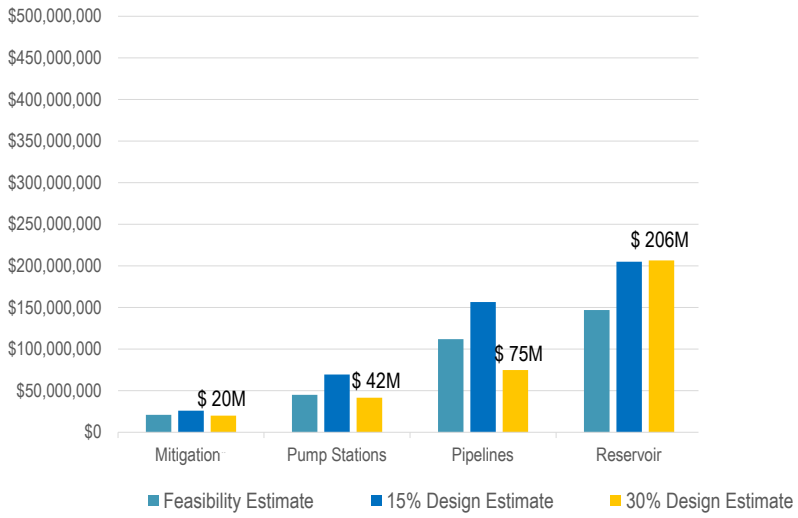


Value Engineering Options

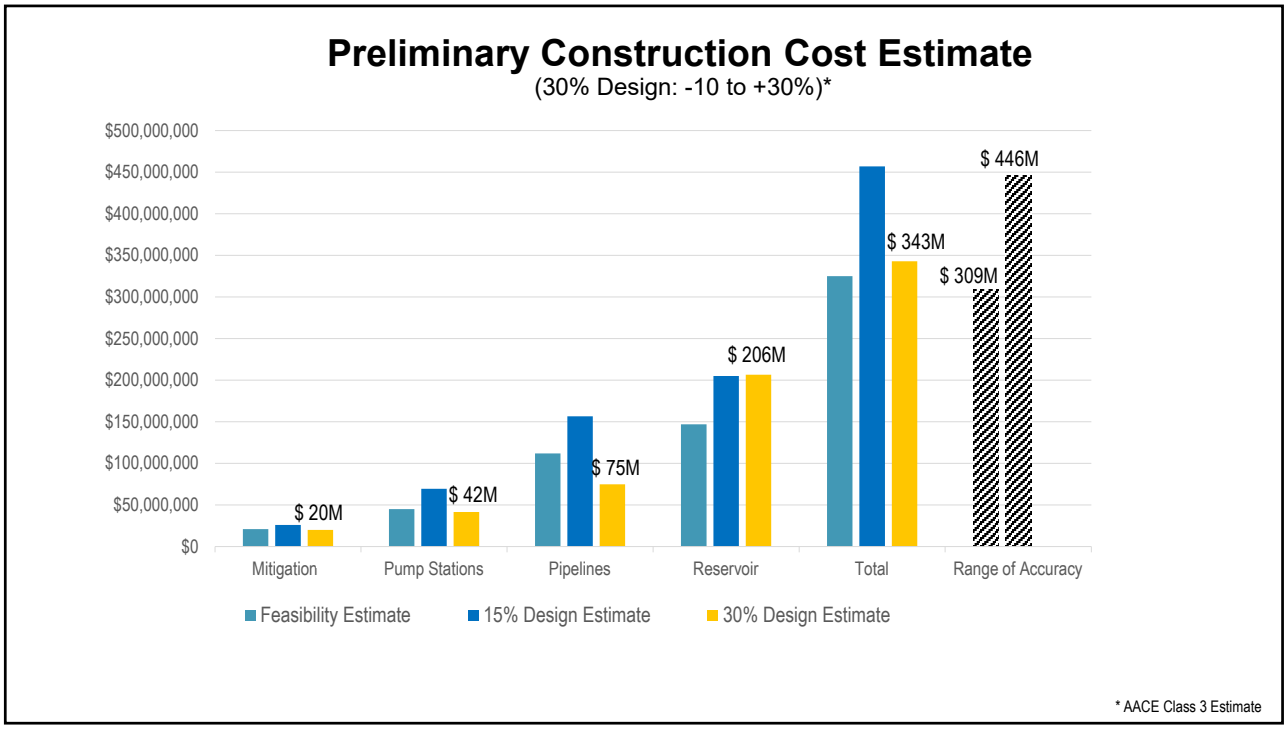
OPTION	POTENTIAL COST REDUCTION	EFFECT
Defer River Intake	$40.9 M	Reduced Yield to 14.5 MGD and Res 3 Fill time
Reduce Intake pipe from 84-inch to 66-inch	$10.3 M	Less Operational Flexibility
Replace Asphalt Roads with grass, soil cement and shellrock options	$11.0 M	Increased annual maintenance cost
Reduce length of security fencing	$7.0 M	No Effect
Remove 54-inch gravity discharge from Res. 3 to Pump Station	$6.7 M	Less Operational Flexibility
Remove 54-inch gravity discharge from Res. 3 to North Lobe Res 1	$3.6 M	Less Operational Flexibility
Cost Savings on WTP Expansion	?	Complete DCP for options

21

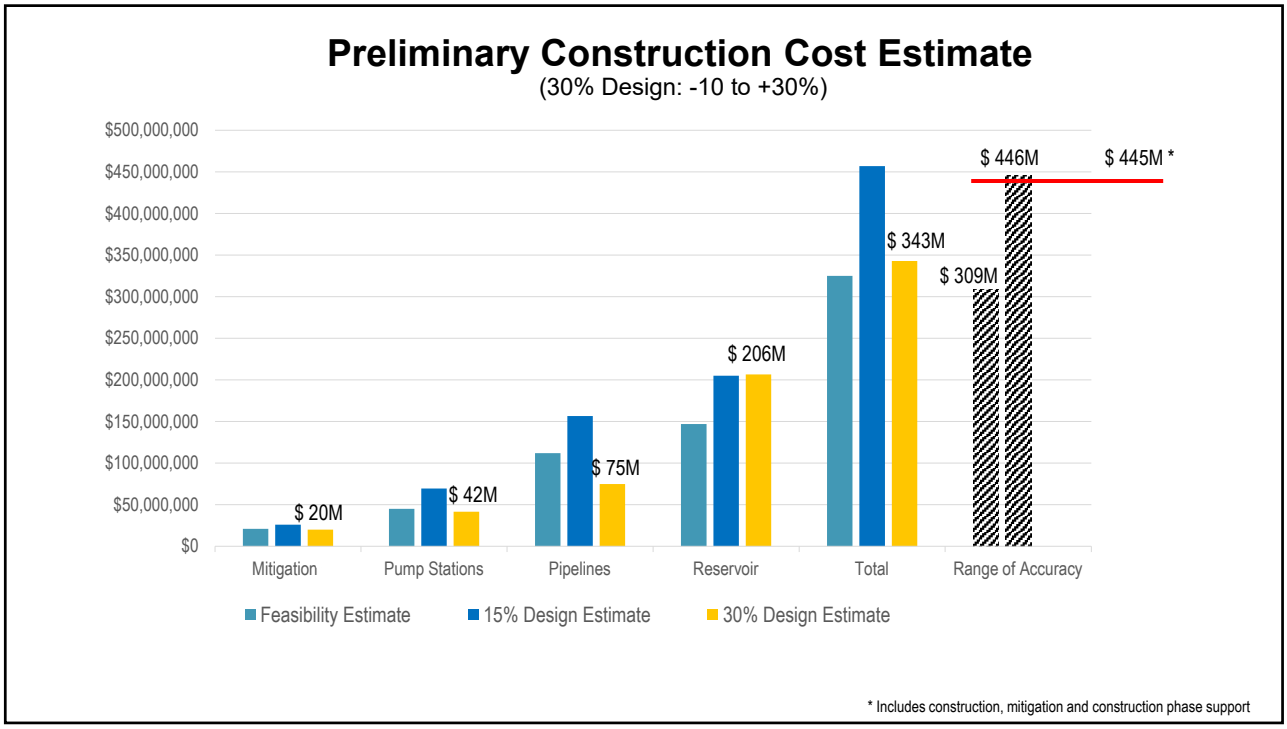
Preliminary Construction Cost Estimate



22


Preliminary Construction Cost Estimate
(30% Design: -10 to +30%)*
$500,000,000
$450,000,000
$400,000,000
$350,000,000
$300,000,000
$250,000,000
$200,000,000
$150,000,000
$100,000,000
$50,000,000
$0
$ 20M
$ 42M
$ 75M
$ 206M
$ 343M
$ 309M
$ 446M
Mitigation
Pump Stations
Pipelines
Reservoir
Total
Range of Accuracy
Feasibility Estimate
15% Design Estimate
30% Design Estimate
* AACE Class 3 Estimate

23


Preliminary Construction Cost Estimate
(30% Design: -10 to +30%)
$500,000,000
$450,000,000
$400,000,000
$350,000,000
$300,000,000
$250,000,000
$200,000,000
$150,000,000
$100,000,000
$50,000,000
$0
$ 20M
$ 42M
$ 75M
$ 206M
$ 343M
$ 309M
$ 446M
$ 445M *
Mitigation
Pump Stations
Pipelines
Reservoir
Total
Range of Accuracy
Feasibility Estimate
15% Design Estimate
30% Design Estimate
* Includes construction, mitigation and construction phase support

24

FUNDING OPPORTUNITIES

Phase	Budget	Resilient Florida Program *	SWFWMD Cooperative Funding	State Funds FY23-24	Customer Contribution
PR3 Design	18M	$14.75M	$1.6M	-	$1.65M
PR3 Construction	$445	-	$112M	$25M	$308M

*Funds must be allocated by 2027

25



Next Steps

- Conceptual Permit Application: May 2023
- Full Permit Applications: September 2023
- Notice to Proceed for Final Design and Permitting: October 2023
- Notice of Award for Construction Manager at Risk (CMAR for Pump Stations and Conveyance Piping

26



27

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

REGULAR AGENDA
ITEM 8

Peace River Brackish Groundwater Facility Project Consultant Selection

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Presenter - Jim Guida, P.G., Director, Water Resources & Planning

Recommended Action - **Motion** to approve Professional Services Evaluation Committee's recommended ranking and authorize the Executive Director to negotiate a professional services contract, and the scope and fee for the first work order (Preliminary Design Services) for the Peace River Brackish Groundwater Facility Project with the highest ranked firm, Carollo Engineers. The negotiated contract, scope and fee will be considered at a future Board meeting.

The Peace River Manasota Regional Water Supply Authority requested proposals from firms for the purpose of providing professional design, engineering, inspection and geological services for feasibility, siting, capacity, design, permitting and construction management for the 'Peace River Brackish Groundwater Facility Project' (Project).

This Project is intended to inform the Authority in the selection of its next water supply development project. The first work order, Preliminary Design, will include drilling and hydrologic testing, permitting, water quality testing, and development of 30% design documents for a brackish groundwater supply at the Peace River Facility. Subsequent work orders (final design, etc.) would be at the direction of the Board.

Proposals were requested from consultants for the purpose of providing Project services on February 10, 2023, and five (5) Proposals were timely received by the March 13, 2023, submittal deadline. The proposals were evaluated by the Authority's Professional Services Evaluation Committee (PSEC) on March 20, 2023, in accordance with the Authority Procurement Policy. The PSEC ranking is shown below. Staff recommends Board approval of the PSEC ranking, and authorization for the Executive Director to negotiate a professional services contract for the Project with the highest ranked firm, Carollo Engineers, and to develop the first work order (preliminary design services) for consideration at a future Board meeting.

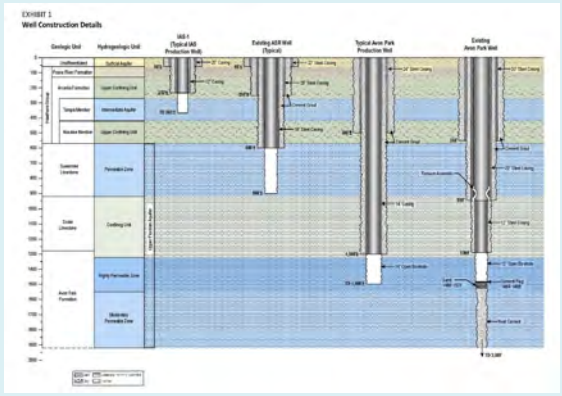
Rank	Firm	Location
1	Carollo Engineers	Sarasota
2	Black & Veatch	Tampa
3	Kimley Horn	Sarasota
4	AECOM	Ft. Myers
5	CHA Consulting	Tampa

Budget Action: No action needed.

Attachments:
Tab A – Presentation Materials
Tab B – RFP Information Package and Sample Contract
Tab C – Submitted Proposals (electronic)
Tab D – Notice of Intended Decision

TAB A
Presentation Materials





Peace River Brackish Groundwater Facility Project
Consultant Selection

Regular Agenda Item 8

April 5, 2023

Peace River Manasota
Regional Water Supply Authority

1

Recap - December Board

PRF Water Use Permit (WUP):

50-Year WUP: February 2069

Source: Was 100% Surface Water

Modification:

Received: October 2022

Add Source: Brackish Groundwater - Conjunctive Use

Authorizes: 9 MGD Withdrawal

RO: 80% Treatment Efficiency

Supply: 5.0 MGD Average, 6.0 MGD Peak, 7.2 MGD Max

Benefits: Diversity, Drought-Resistance, Increased Reliability

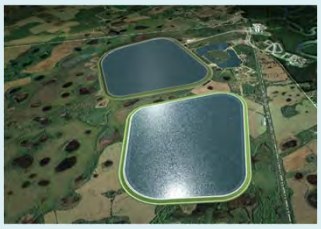
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

Peace River Manasota
Regional Water Supply Authority

2

Recap - December Board

Project Costs and Funding Considerations - Path Forward:



- Continue Design/Value Engineering - Surface Water Expansion Project
- Pursue Additional State / Federal Funding Opportunities



- Pursue Preliminary Design for Brackish Groundwater Project
  - Preliminary Cost Estimate - $110M
  - 5.0 MGD Average
  - 7.2 MGD Maximum

Peace River Manasota Regional Water Supply Authority

3

Peace River Brackish Groundwater Facility Project – Scope

Hydrogeologic & Engineering Services:





- Hydrogeologic Investigation - Drilling & Testing
  - Production Capacity / Groundwater Quality
  - Wellfield Optimization
- Potential WUP Modification
- 30% Design Drawings
  - Water Treatment Facilities
  - Pumping, Conveyance, Storage, SCADA
  - Wells - Production, Monitoring, Disposal Wells
- Opinion of Estimated Probable Cost
- Substantial Completion Target: April 2024



4

Peace River Brackish Groundwater Facility Project - Consultant Selection

Selection Process

Request for Proposals: February 10, 2023
5 Proposals Received: March 13, 2023
Selection Committee: March 20, 2023



PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

INFORMATION PACKAGE
REQUEST FOR STATEMENT OF QUALIFICATIONS -
PROFESSIONAL SERVICES
for the
PEACE RIVER BRACKISH GROUNDWATER FACILITY PROJECT

The Peace River Manasota Regional Water Supply Authority (Authority) is requesting a 'Statement of Qualifications' (SOQ) from consultants (Consultant) to provide professional design, engineering, inspection and geological services for feasibility, siting, capacity, design, permitting and construction management for the 'Brackish Groundwater Facility Project' (Project).

AUTHORITY BACKGROUND

The Authority is an independent special district of the State of Florida, created and existing pursuant to Chapter 373, Florida Statutes, and Section 163.01, Florida Statutes. The Authority is comprised of Charlotte, DeSoto, Manatee, and Sarasota Counties. The Authority was created for the purpose of developing, storing, and supplying water for county and municipal purposes in such a manner as will give priority to reducing adverse environmental effects of excessive or improper withdrawals from concentrated areas. The Authority is required to acquire, design, secure permits, construct, operate, and maintain facilities in locations and at the times necessary to ensure that an adequate water supply will be available to all citizens within the Authority's boundaries.

The Authority owns and operates the Peace River Water Treatment Facility (PRF), a 51 million gallon per day (MGD) conventional surface water treatment facility located on Kings Highway in southwestern DeSoto County (treatment facility). The treatment facility was constructed in the late 1970's and has undergone expansion and rehabilitation projects several times over the years. The treatment facility is supported by a 120 MGD intake pump station on the Peace River, a 6.5 billion gallon off-stream raw water storage system, and twenty-one (21) aquifer storage and recovery (ASR) wells. The Authority's regional distribution system also includes approximately eighty (80) miles of large diameter drinking water transmission system pipelines and associated remote pumping stations and finished water storage tanks in several counties.

The Authority will be preparing a 30% design of a third reservoir, referred to as "Peace River Regional Reservoir No. 3" (PR3), which is currently expected to be completed by the Fall of 2023. The Authority intends to evaluate the PR3 project, along this Project, to select its next water supply development project by the April 2024 Authority Board meeting. The next water supply project must be online by early 2028 to meet projected regional demands.

PROJECT DESCRIPTION

The Authority is requesting a 'Statement of Qualifications' (SOQ) from consultants (Consultant) interested in providing professional services including but not limited to design, engineering, inspection, and geologic, and hydrogeologic services for the 'Brackish Groundwater Facility Project' (Project). This Project is intended to inform the Authority in the selection of its next water supply development project, and may include Water Use Permitting (WUP), regional numerical groundwater flow modeling with the Southwest Florida Water Management District's

Professional Services – Brackish Groundwater Facility Project
Request for SOQ
Page 1

5

Peace River Brackish Groundwater Facility Project - Consultant Selection

Selection Committee Ranking:

Rank	Firm	Location
1	Carollo Engineers	Sarasota
2	Black & Veatch	Tampa
3	Kimley Horn	Sarasota
4	AECOM	Ft. Myers
5	CHA Consulting	Tampa







6

Peace River Brackish Groundwater Facility Project - Consultant Selection

Motion

Motion to approve Professional Services Evaluation Committee's recommended ranking and authorize the Executive Director to negotiate a professional services contract and the scope and fee for the first work order (Preliminary Design Services) for the Peace River Brackish Groundwater Facility Project with the highest ranked firm, Carollo Engineers. The negotiated contract, scope and fee will be considered at a future Board meeting.





Peace River Manasota
Regional Water Supply Authority

7

TAB B
RFP Information Package and Sample Contract

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

REQUEST FOR STATEMENTS OF QUALIFICATIONS -
PROFESSIONAL SERVICES
for the
PEACE RIVER BRACKISH GROUNDWATER FACILITY PROJECT

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Proposals must be submitted in accordance with the information packet containing details of the proposal submittal requirements ("Information Package") which may be downloaded by visiting the Authority's website (www.regionalwater.org). The Authority may also use DemandStar, a third-party provider, to distribute proposals. Participation in the DemandStar system is not a requirement for doing business with the Authority. If encountering any difficulties obtaining the Information Package, contact Rachel Kersten at RKersten@regionalwater.org, or by calling 941-316-1776. Any questions concerning this Request for Statements of Qualifications must be presented in writing via email to **procurement@regionalwater.org** no later than 5:00 p.m. Eastern Standard Time on **February 24, 2023**, using "**SOQ Question: Brackish Groundwater Facility Project**" as the subject line. Questions received after the scheduled cut-off date/time for submission of all questions will go unanswered. All responses to questions and addenda, if applicable, will be posted on the Authority website; however, it is the responsibility of the Agent, prior to submitting a proposal, to review the Authority's website to determine if any addenda were issued and to make such addenda a part of its proposal.

Consultant selection shall be in accordance with the Section 287.055, Florida Statutes, and Consultants Competitive Negotiation Act, and the Authority's Procurement Policy (adopted December 7, 2022, or latest revision). The Authority's Procurement Policy can be viewed in its entirety on the Authority's website at www.regionalwater.org refer to Section 5.4. **Consultants desiring to provide these services to the Authority must submit a single electronic file in searchable PDF format of their statement of qualifications in accordance with the requirements contained in the information package via email to procurement@regionalwater.org, using "Response to SOQ: Brackish Groundwater Facility Project" as the subject line.**

A Consultant's SOQ must be received no later than **10:00 a.m. Eastern Standard Time on March 13, 2023,** and any Statements of Qualifications submitted will be publicly opened immediately thereafter.

Dated this 10th day of February 2023

Mike Coates, Executive Director
Peace River Manasota Regional Water Supply Authority

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

INFORMATION PACKAGE
REQUEST FOR STATEMENT OF QUALIFICATIONS -
PROFESSIONAL SERVICES
for the
PEACE RIVER BRACKISH GROUNDWATER FACILITY PROJECT

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(SWFWMD) Districtwide Regulation Model 4.0 (DWRM 4.0), Underground Injection Control (UIC) permitting, public drinking water treatment facility permitting, Environmental Resource Permitting (ERP) permitting, and other pertinent regulatory authorizations. The initial professional service for the Project includes completion to the 30% design stage for production, monitor and Class I deep injection wells, raw and finished water pumping, necessary conveyance at the PRF, water treatment, and concentrate disposal-related facilities. Should the Project be selected by the Authority Board as the next water supply project, the Authority may negotiate with the selected Consultant for additional design and/or construction professional services on the Project by mutual agreement and as deemed appropriate by the Authority.

PROJECT BACKGROUND

The Authority's existing off-stream reservoir system includes two reservoirs with a combined storage capacity of 6.5 billion gallons (BG). Water withdrawn from the Peace River is stored in the reservoir system and supplies the PRF which currently provides an average of about 29 MGD drinking water supply to Charlotte, DeSoto and, Sarasota Counties and the City of North Port. Reservoir #1 is primarily a below-grade reservoir completed in 1980 with approximately 500 million gallons of usable storage. Reservoir #2 is an above-ground reservoir completed in 2009 that provides 6.0 BG of normal operating raw water storage. The reservoirs are located on lands owned by the Authority and/or the Southwest Florida Water Management District.

Water is withdrawn from the Peace River at a 120 MGD pump station adjacent to the PRF. Withdrawals are made in accordance with a flow-based schedule included in the Authority's WUP. The WUP was modified in February 2019, authorizing an increase in maximum withdrawal rate from the river from 120 MGD to 258 MGD. The Authority's permitted surface water withdrawal schedule enables the harvest of a small percentage of high flow from the river for off-stream storage and supply to the Authority's Peace River Water Treatment Facility. While the withdrawal schedule preserves most of the river flow supporting the Charlotte Harbor estuary, the reliability of this supply depends on the ability to harvest water quickly when that resource is available, and the availability of large volume off-stream reservoirs to store that resource.

In 2009, as part of a "Source Water Feasibility Study", the Authority and the SWFWMD initially identified the potential benefits of developing a new and separate brackish groundwater raw water supply source at the PRF. Between 2011 and 2013 the Authority conducted a "Preliminary Investigation of Brackish Groundwater Opportunities at the Peace River Facility" which included a "Groundwater Resource Evaluation", an "Evaluation of Concentrate Disposal Options", a "Well Completion Report for the Peace River Exploratory Well", and a "Conceptual Design of Reverse Osmosis Facilities". The preliminary investigation indicated that development of a 5.0 MGD finished water facility and concentrate disposal by Class I deep injection well (DIW) is feasible.

In October 2022 the Authority secured a modification of its WUP to construct brackish groundwater wells at total authorized Annual Average and Peak Month groundwater quantities of 9.0 MGD. Withdrawals are authorized from up to four (4) Avon Park wells and up to six (6) Intermediate Aquifer System Permeable Zone 3 (IAS PZ-3) wells. Assuming an 80% finished water recovery rate, the maximum daily finished water yield is expected to be 7.2 MGD. The potential exists to increase the authorized raw water withdrawal quantities and expand and/or otherwise modify the raw water withdrawal facilities under an additional permit modification,

which may be pursued as part of the Project. Should the wellfield be expanded, and authorized withdrawal quantities increased, the pumping, conveyance, and treatment facilities design will be adjusted accordingly.

The foregoing studies and permits, and other pertinent documents are listed in the Background Materials section of this SOQ document and are available for download at www.regionalwater.org. Consultants providing a response to this SOQ are advised to review and consider these documents in preparing their SOQ.

The 2011-2013 Groundwater Resource Evaluation did not include drilling and testing in the Avon Park Formation. Unless changes recommended by the Consultant are approved by the Authority, this Project includes drilling and testing of one or more Avon Park Formation (i.e., primary wellfield production zone) production wells necessary to characterize groundwater quality, production capacity, pertinent aquifer parameters, and potential withdrawal impacts.

Given the need to evaluate water supply projects by the April 2024 Authority Board Meeting, the 30% design for IAS PZ-3 production wells and DIW(s) for concentrate disposal is generally not expected to include well construction and testing, but rather is anticipated to rely upon previous onsite testing reports.

SCOPE OF SERVICES

The Authority expects to engage a firm to provide professional services initially for 30% design of the Project as Work Order No. 1 and if the Authority determines it wishes to proceed, may engage the selected firm to carry out additional Work Orders for the Project. Implementation of the Brackish Groundwater Facility Project (Project) will require multi-disciplinary expertise. The professional services for the Project through the 30% design stage are expected to include, but are not necessarily limited to:

1. Peer review and analysis of the information identified in the Background Materials section herein and other publicly available information, and provision of pertinent observations regarding technical and permitting issues the Consultant believes have the potential to affect successful and timely accomplishment of the proposed Project, and associated recommendations to overcome them. Efforts would also include evaluation of technologies for brackish water treatment and advantages and disadvantages for each approach for the Authority's consideration, including economic and non-economic considerations.

2. Review and evaluation of the current approach to wellfield design and permitting, including any recommended revisions, and implementation of Authority-approved modifications, if any.

3. Professional Engineering and Geology design, oversight, and completion of a brackish groundwater well construction, development, and testing program. This shall include development of well construction and testing specifications, individual well testing during construction, aquifer performance testing to characterize aquifer production and confinement characteristics, and natural background brackish groundwater quality. The program must be designed to optimize well production while minimizing the potential for saline water upconing and avoiding adverse impacts to the Authority's ASR system and other surrounding water

users.

4. Provide a Technical Memorandum (TM) that 1) describes the exploratory well construction and testing program, its results, and associated observations and recommendations 2) sets forth Consultant's conclusions and recommendations concerning issues that have the potential to affect successful and timely completion of the project, and 3) provides recommended next steps and schedule to complete the Project. This shall include but not be limited to documentation of well construction and testing program results and observations and predicted changes to natural background conditions (saline water upconing) under active wellfield conditions to assist the engineer of record in designing an effective and resilient water quality treatment system.
5. Should the Authority determine that a change in wellfield configuration, withdrawal quantities, or well specifications is necessary during the 30% design period, Consultant shall update them accordingly, and provide technical and regulatory support for modification of the Authority's WUP to increase quantities and add production wells.
6. Numerical groundwater flow modeling using the SWFWMD's DWRM 4.0 model.
7. Surveying, geotechnical investigation, subsurface investigations, construction management/inspection, and hydraulic modeling.
8. Recommendation of a water treatment system for the brackish groundwater supply that will provide the flexibility to withstand projected changes in raw water salinity and ensure long term sustainability, resiliency, and reliability under active wellfield conditions.
9. Preliminary evaluation of potential compatibility of injectate waters with injection zone formations and recommendations for associated pretreatment methods that may be necessary to avoid potential formation clogging.
10. Completion of 30% design drawings and outline technical specifications for production, monitoring and deep injection wells, pumping, conveyance, water treatment facilities, concentrate disposal-related facilities, and SCADA monitoring systems and that conform to SWFWMD Cooperative Funding Initiative Guidelines (Fiscal Year 2024). This shall include an AACE estimation of probable cost (total and itemized) and a schedule for completion of design, permitting and construction of the project.
11. Recommended next steps and schedule should the Authority select the Brackish Groundwater Facility Project as its next water supply development project.

<u>Potential for Federal Funds on Projects</u>

Consultants are hereby placed on notice that the Authority may seek Federal funds for these Projects and therefore all Consultants must be in compliance with the Federal Requirements listed in 2 C.F.R Part 200 (Uniform Guidance), including the required contract clauses detailed in 2 C.F.R. Part 200, Appendix II and Federal Labor Standards Provisions (Davis-Bacon and Related

Acts 29 C.F.R Parts1, 3 and 5).

BACKGROUND MATERIALS

The documents listed below for the Brackish Groundwater Facility Project (Project) are available for downloading by visiting the Authority's website at www.regionalwater.org. These items are **also available for review** at the Authority's Administrative Office at 9415 Town Center Parkway, Lakewood Ranch, Florida 34202 (if interested - please contact Rachel Kersten for appointment 941-316-1776).

1. Source Water Feasibility Study for the Upper Myakka River, Shell and Prairie Creeks, and Dona Bay Watersheds (Post Buckley Schuh & Jernigan, 2009)

2. Preliminary Investigation of Brackish Groundwater Opportunities at the Peace River Facility – Resource Evaluation (CH2M Hill, 2011)

3. Preliminary Investigation of Brackish Groundwater Opportunities at the Peace River Facility – Evaluation of Concentrate Disposal Options (CH2M Hill, 2011)

4. Preliminary Investigation of Brackish Groundwater Opportunities at the Peace River Facility – Conceptual Design of Reverse Osmosis Facilities (CH2M Hill, 2013)

5. Preliminary Investigation of Brackish Groundwater Opportunities at the Peace River Facility – Well Completion Report for the Peace River Exploratory Well (CH2M Hill, 2012)

6. Peace River Manasota Regional Water Supply Authority Integrated Regional Water Supply Plan 2020 (November 2020)

7. Peace River Manasota Regional Water Supply Authority Site Master Plan Update (HDR, April 2017)

8. Peace River Manasota Regional Water Supply Authority 5-Year Capital Improvements Program and 20-Year Capital Needs Assessment Fiscal Period: 2023 - 2042

9. Application for Water Use Permit (WUP) No. 20010420.012 (April 1, 2022)

10. Water Use Permit (WUP) No. 20010420.012 (October 18, 2022)

11. Underground Injection Control (UIC) Permit No. 0136595-014-UO5Q (April 2013)

12. Application for Renewal of Underground Injection Control (UIC) Permit No. 0136595-014-UO5Q (February 2018)

13. Peace River Facility ASR System - 2021 Annual Report for Underground Injection Control (UIC) Permit No. 0136595-014-UO5Q (August 2022)

14. RV Griffin Land Use Management Plan (November 2021)

15. Interim Report on the Well Construction and Testing of the Peace River Regional Water Supply Facility Avon Park ASR Test Facility (CH2M Hill, 1993)

16. Avon Park ASR Test Well - 90 Day Withdrawal Test (CH2M Hill, January 1995)

GENERAL PROJECT SCHEDULE

A summary schedule for Consultant selection for this Project is presented below.

	Milestone	Expected Completion Date
(1)	Advertise for Consultant SOQ	02/10/2023
(2)	Final Date for Questions	02/24/2023
(3)	SOQ Submittals Due to the Authority	03/13/2023
(4)	PSEC Meeting to Shortlist	03/20/2023
(5)	Notification of Shortlisted Firms	03/21/2023
(6)	Interviews and PSEC [(a)(b)] Meeting	03/23/2023
(7)	Consultant Selection	04/05/2023 (Board Action)
(8)	Contract and Work Order No. 1	06/07/2023 (Board Action)

(a) PSEC = Professional Services Evaluation Committee. All PSEC meetings are publicly noticed.

(b) Interviews will be held at the discretion of the PSEC. PSEC will decide on need for interviews and how many firms to interview at 3/20/23 PSEC meeting. If interviews are held, no presentation material from the Consultants will be permitted. Consultants may bring a copy of their SOQ Proposal as submitted 3/13/2023 for reference during the interview.

The Authority reserves the right to delay scheduled dates if determined to be in the best interest of the Authority.

CONSULTANT SELECTION PROCESS

Consultant selection shall be in accordance with the Section 287.055, Florida Statutes, and Consultants Competitive Negotiation Act, and the Authority's Procurement Policy (adopted December 7, 2022, or latest revision). The Authority's Procurement Policy can be viewed in its entirety on the Authority's website at www.regionalwater.org refer to Section 5.4. A copy of the Authority's standard professional services contract form is included in this information package. The professional services contract contains minimum insurance requirements that must be satisfied for the contract to be executed by the Authority. The contents of the SOQ of the successful Consultant will be incorporated into a written agreement in terms acceptable to the Authority at its absolute discretion. **By submitting a SOQ, Consultant agrees to all the terms and conditions of this Request for SOQ and those included in the Authority's standard professional services contract.** If Consultant desires to propose a change to a term or condition of this Request for SOQ or the Authority's standard professional services contract, Consultant must submit its request by submitting a question as provided for below.

After issuance of this Request for SOQ, prospective Consultants or their agents, representatives or persons acting at the request of such Consultant are prohibited from contacting members of the

Authority's Board of Directors and Executive Director or any member of a selection or negotiation committee concerning this issue until after the final recommendation is presented to the Board of Directors for approval or when the solicitation has been canceled or terminated. Any questions concerning this Request for Statements of Qualifications must be presented in writing via email to **procurement@regionalwater.org** no later than 5:00 p.m. Eastern Standard Time on **February 24, 2023**, using "**SOQ Question: Brackish Groundwater Facility Project**" as the subject line. **Consultants are responsible to review the Authority's website for the Authority's responses to any questions timely submitted.**

STATEMENT OF QUALIFICATIONS - MINIMUM REQUIREMENTS

The SOQ must detail the Consultant's recommended method to accomplish the tasks and requirements for successful completion of the Brackish Groundwater Facility Project. In addition, the SOQ must include sufficient information to allow the Authority to evaluate the Consultant's understanding, experience, and qualifications to perform the work.

The SOQ must include the project responsibilities and proposed involvement of key project personnel, as well as their education background and specific work experience.

Each SOQ must include the following sections:

Section 0 - Background

This section must include the following as a minimum:

1. Legal name, address, phone number of Consultant and e-mail of primary contact;
2. Principal office locations of submitting Consultant and any proposed partners/sub-consultants;
3. Legal form of company, i.e., partnership, corporation, joint venture, (if joint venture, identify the members);
4. Copy of Florida Professional Licenses as applicable (business and/or individual);
5. Disclosure of whether Consultant or partner/subconsultants currently represents Charlotte, DeSoto, Manatee, or Sarasota counties, or the City of North Port (Customers), in any way; and
6. Disclosure of any litigation Consultant or partner/subconsultants is involved in against any of the Authority Customers (listed above), either directly or retained for testimony and expertise on behalf of any other entity in litigation against the Authority or any of its Customers.

Section 1 - Project Manager & Management

This section must include the following as a minimum:

1. Qualifications and professional experience for Consultant's "Project Manager" who is proposed to serve as point of contact for any and all work assigned by the Authority;
2. The Consultant's approach to project management and ensuring that all aspects of the project are effectively completed on time and within budget. Provide information relative to specific experience of the proposed Project Manager.

Section 2 - Consultant Team's Engineering Experience

This section must include the following as a minimum:

1. Resumes of Key Personnel, showing engineering qualifications and professional experience, who will be assigned to conduct project services listed within the Scope of Services, the consultant firm and location of the office to which they are assigned.
2. Project Examples: SOQs shall include descriptions and examples of projects completed by Consultant or partner/subconsultants relating to the project service areas identified herein, including budget and completion, or estimated (if ongoing) completion time information. Project Example may be either firm or personnel experience and will be indicated as such in the project description (Project Examples from Key Personnel while employed outside their current firm can be considered). **Project Examples must be listed on the Key Personnel Chart (Section 6). The Project Example writeups must include the Key Personnel's role on the project as well as a brief statement on the project status**. Include as a minimum:

    A. No less than two Project Examples that illustrate the Consultant Team's engineering experience in planning, design, permitting, and construction of water treatment facilities.

    Preference will be given to understanding and/or experience with the following:

    A. Planning, design, permitting, construction and management of brackish groundwater production, pumping, conveyance, water quality treatment, and concentrate disposal facilities, and associated considerations and challenges.
    B. Evaluation of compatibility of injectate waters with injection zone formations and pretreatment methods that may be necessary with respect to scaling or plugging in the injection zone.
    C. Surveying, geotechnical, and subsurface investigations, construction management/inspection, and hydraulic modeling.
    D. Identification of optimal and cost-effective brackish groundwater treatment systems capable of ensuring long term resiliency under active wellfield withdrawal conditions.
    E. FDEP UIC permitting, FDEP public drinking water treatment facility permitting, and SWFWMD / FDEP ERP rules and policies.
    F. Design and installation of SCADA systems capable of real time monitoring and control of operational information such as well and plant flows, well water levels, specific conductance of well groundwater, and other pertinent data for the raw water production wells, as well as critical operating parameters for the treatment system.

Section 3 - Consultant Team's Hydrogeologic Experience

This section must include the following as a minimum:

1. Resumes of Key Personnel, showing hydrogeologic qualifications and professional experience, who will be assigned to conduct project services listed within the Scope of Services, the consultant firm and location of the office to which they are assigned.
2. Project Examples: SOQs shall include descriptions and examples of projects completed by

Consultant or partner/subconsultants relating to the project service areas identified herein, including budget and completion, or estimated (if ongoing) completion time information. Project Example may be either firm or personnel experience and will be indicated as such in the project description (Project Examples from Key Personnel while employed outside their current firm can be considered). **Project Examples must be listed on the Key Personnel Chart (Section 6). The Project Example writeups must include the Key Personnel's role on the project as well as a brief statement on the project status**. Include as a minimum:

A. No less than two Project Examples that illustrate the Consultant Team's hydrogeology related experience in planning, permitting, developing, and managing brackish groundwater supplies and associated facilities.
B. No less than two Project Examples that illustrate the Consultant's hydrogeology related experience in planning, permitting, developing, and managing concentrate disposal facilities.

Preference will be given to understanding and/or experience with the following:

A. Southwest Florida hydrogeology, particularly in the Authority's service area.
B. Design, construction, and testing of brackish groundwater supply wellfields and deep injection wells (DIWs), and performance and integrated interpretation of borehole geophysics with well and aquifer testing.
C. Design and implementation of brackish groundwater wellfield management plans to minimize and manage withdrawal impacts to groundwater quality and potential impacts to existing legal water users.
D. SWFWMD WUP and FDEP UIC permitting rules and policies, successfully securing such permits, and the SWFWMD's latest DWRM.

The Consultant shall provide a project Organizational Chart that shows at a minimum proposed Key Personnel team members for hydrogeologic exploration, design, and modeling service areas; permitting; treatment system engineering design; and key specialty subconsultants. The Consultant shall provide a companion Key Personnel Chart that identifies the proposed Key Personnel roles on the Project.

Section 4 - Preliminary Project Understanding, Approach, and Schedule

This section must include the Consultant's Project Understanding, Approach and Schedule. This shall include a description of the respondent's understanding of the Scope of Services for the overall Project and its component elements (engineering, hydrogeology, well construction), and an approach and schedule for completing them. This shall also describe how the respondent's understanding and experience will be applied to ensure effective Project implementation and completion as provided below.

This section must include the following Project understanding and approach as a minimum:

1. Understanding and approach to planning, design, permitting, construction, and management of the Project, and associated considerations and challenges. This should include an approach

to developing engineering-related 30% design on a parallel path with well construction and hydrogeologic testing to meet the project schedule.

2. Understanding of the hydrogeology and groundwater quality of southwest Florida and particularly the Authority's service area. This should specifically identify anticipated challenges associated with developing and managing brackish groundwater wellfield and concentrate disposal facilities at the Authority's PRF (including but not necessarily limited to potential salinity changes), and an approach for effectively addressing them.
3. Approach to design, oversight, and completion of a brackish groundwater well construction, development, and testing program for Avon Park Formation production wells including: a) well construction and testing specifications; b) individual well testing during construction; c) aquifer performance testing to characterize aquifer production and confinement characteristics of the primary water supply production zone (i.e., Avon Park Formation); and d) natural background groundwater quality. The approach shall identify specific exploratory tools and methods that will be employed to ensure wells are constructed in a manner that optimizes well production, minimizes the potential for saline water upconing, and avoids adverse impacts upon the ASR system and other existing legal users. This should include identification of any anticipated technical or logistical challenges, and how such challenges will be affirmatively addressed. An approach to 30% design of IAS PZ-3 production and DIWs for concentrate disposal using currently available information should also be included.
4. Understanding of SWFWMD WUP rule criteria and policies and the SWFWMD's Districtwide Regulation Model (DWRM), identification of key WUP permitting challenges, and an approach for timely securing a modification of the Authority's WUP to increase groundwater withdrawal facilities and quantities.
5. Understanding and approach to SCADA system design for remotely monitoring continuous flow, water levels, specific conductance, and other pertinent information.
6. Understanding and approach to developing a reliable opinion of probable cost for design, permitting, construction, operation, and maintenance of all Project facilities.

This section must include a schedule for Preliminary Engineering as described below:

7. Preliminary Engineering schedule to span from Work Order No. 1 Authority Board approval through the completion of Preliminary Engineering and any pertinent intermediate milestones. Include in the schedule the point which the Consultant is confident that an evaluation of the option for Brackish Groundwater Treatment can be evaluated against other water supply alternatives, including PR3. The schedule can be shown on 11"x17" size page(s) if desired.

<u>Section 5 - Well Construction Contractor Approach</u>

Consultant to bring a qualified Florida-licensed well construction contractor onto the Consultant team prior to bringing the negotiated Work Order No. 1 to the June 2023 Authority Board meeting; however, Consultant does not need to have the well construction contractor(s) identified in the SOQ. This section must include the following as a minimum:

1. Consultant to list the minimum qualifications that will be used to select a qualified well construction contractor capable of conducting construction and testing within a timeframe sufficient to allow for effective design of all Project facilities.

2. The Consultant's proposed approach to contracting and coordination with the well construction contractor(s) to ensure timely and effective completion of well construction and testing.

Authority has the option to reject or accept proposed well construction contractors proposed by Consultant.

Section 6 - Required Forms

The following forms must be included in this section:

- Key Personnel Chart (Attachment A)
- E-Verify Affidavit and Required Evidence
- Signed Sworn Statement under Section 287.133(3)(a), Florida Statutes, on Public Entity Crimes (below); and
- Reference Forms (List of three (3) client staff that the Authority can contact as references with respect to three of the Consultant's Project Examples presented in this SOQ)

Costs shall not be submitted with the SOQ as fee schedules and detailed scope of work will be negotiated after the selection of the Consultant. Two or more consultants may combine for the purpose of responding to this Request for SOQ providing that one consultant is designated as the "Prime" Consultant and the other(s) as subconsultant(s) and that the SOQ was made without collusion and is in all respects, fair and in good faith.

The SOQ shall be limited to no more than forty (40) one-sided pages for all requested information described herein with the following exceptions: Front and back covers, table of contents, section dividers, and Required Forms are excluded from the page limit. All pages shall be standardized 8 ½ x 11 inches in size, margins not less than 1-inch, standard black text and minimum 12-point font size unless section indicated that pages 11 x 17 inches in size are allowed. Font on graphics may be reduced to 10-point font size.

Consultants desiring to provide these services to the Authority must submit a single electronic file in searchable PDF format of their statement of qualifications in accordance with the requirements contained in the information package via email to procurement@regionalwater.org, using "Response to SOQ: Brackish Groundwater Facility Project" as the subject line.

As a courtesy, the Authority will endeavor to provide an email acknowledgement usually sent within a few days after submission receipt (submissions received on the day of the deadline may not be acknowledged before the deadline or at all). It is the Consultant's responsibility to confirm its submission (PDF file) has been received. The Authority can receive files up to 100 MB in size.

A Consultant's SOQ must be received no later than **10:00 a.m. Eastern Standard Time on March 13, 2023,** at the above referenced email address. The Authority will not be responsible for any lost or late arriving statement of qualifications sent electronically. Late submittals will not be opened or considered. SOQs that are incomplete, conditional, obscure, or do not conform to the requirements contained in this Request for Statements of Qualifications may be rejected as

nonresponsive at the sole discretion of the Authority. The Authority reserves the right to reject all responses and not grant any award resulting from this Request for Statements of Qualifications. The Authority also reserves the right to waive nonmaterial irregularities and technicalities and to re-advertise for additional statement of qualifications. If awarded, no contract will be formed between the Consultant and the Authority until an agreement is executed by both parties.

Upon submittal of its SOQ, the Consultant agrees to be bound by all terms and conditions of the Request for Statements of Qualifications. Neither the Authority nor its representatives will be liable for any expenses incurred in connection with preparation of a response to this Request of Statement of Qualifications.

PROPOSAL EVALUATION CRITERIA

The following factors, with the weighting indicated, will be used to evaluate proposals:

SOQ Proposal Scoring Criteria	Weighting
1. Project Manager & Management	20 points
2. Consultant Team's Engineering Experience	20 points
3. Consultant Team's Hydrogeologic Experience	20 points
4. Preliminary Project Understanding, Approach and Schedule	40 points
5. Well Construction Contractor Approach	15 points
6. Team Location & Collaboration (Key Personnel Chart)	10 points
TOTAL	125 points

By submitting a SOQ, Consultant and any sub-consultants certify they have sufficient availability with key staff to achieve the Preliminary Engineering schedule submitted and can attend the interview in-person on the scheduled date. Sub-consultants can participate on multiple Consultant proposals.

INTERVIEW EVALUATION CRITERIA

If the PSEC decides to hold interviews, each PSEC member will rank the Consultants (for example, 1st, 2nd, and 3rd if three or more Consultants are shortlisted for interviews). The rankings for each firm will be tallied and the firm with the lowest total score will be recommended for award of the contract. PSEC members will consider the proposals submitted by selected interviewees in conjunction with the interview in developing their rankings, but the Proposal scores will not be used in the interview rankings. Only interview rankings will be used to determine the PSEC's recommended award.

SCRUTINIZED COMPANIES

A company that, at the time of bidding or submitting a SOQ for a new contract or renewal of an existing contract, is on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, shall be ineligible for, and may not bid on, submit a SOQ for, or enter into or renew a contract with an agency or local governmental entity for goods or services of any amount.

Similarly, a company that, at the time of bidding or submitting a SOQ for a new contract or renewal of an existing contract, is on the Scrutinized Companies with Activities in Sudan List or

the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or has been engaged in business operations in Cuba or Syria, shall be ineligible for, and may not bid on, submit a SOQ for, or enter into or renew a contract with an agency or local governmental entity for goods or services of one million dollars or more. By submitting a SOQ, Consultant must certify that it is not on the aforementioned lists.

PUBLIC ENTITY CRIMES

A person or an affiliate who has been placed on the convicted vendor list following a conviction for public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of public building or public work, may not submit bids, statements of qualifications, proposals, or replies on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, Florida Statutes, for category two for a period of thirty-six (36) months from the date of being placed on the convicted vendors list. Consultant shall submit with its SOQ a properly executed and notarized Public Entity Crimes Statement, attached hereto.

DISCRIMINATORY VENDER LIST

An entity who has been placed on the discriminatory vendor list may not submit a bid, statement of qualifications, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, statement of qualifications, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, statement of qualifications, proposals, or replies on leases or real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity. By submitting an SOQ to this solicitation, Consultant certifies that it is not on the discriminatory vender list.

CONFLICT OF INTEREST

All Consultants must disclose in their SOQ the name of any officer, director, or agent who is also an employee of the Authority. Further, all Consultants must disclose the name of any employee of the Authority who owns, directly or indirectly, an interest in the Consultant's firm or any of its subsidiaries.

PARTICIPATION IN E-VERIFY SYSTEM

Every public employer, consultant/contractor, and subconsultant/contractor shall register with and use the E-Verify System to verify the work authorization status of all newly hired employees. By submitting a SOQ, Consultant certifies that it has registered for and will use the E-Verify System.

PROCUREMENT POLICY AND BID PROTESTS

Consultant is hereby placed on notice of the existence of the Authority Procurement Policy, December 2022 (or latest revision) ("Procurement Policy") and is considered to be on constructive

notice of all provisions contained therein. A copy is available at the Authority's Administrative Office at 9415 Town Center Parkway, Lakewood Ranch, Florida 34202 and on the Authority's website at www.regionalwater.org. The Authority shall post the intended decision or Board decision on the Authority's website at www.regionalwater.org. Notwithstanding the Procurement Policy, disputes regarding the bidding process shall be resolved in accordance with Section 120.57(3), Florida Statutes. Failure to file a protest within the time prescribed in Section 120.57(3), Florida Statutes, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings under Chapter 120, Florida Statutes.

PUBLIC AVAILABILITY OF RECORDS

Once opened, all SOQ will become the property of the Authority and, at the sole discretion of the Authority, may not be returned to Consultant. Any information, reports, or other materials given to, prepared, or submitted in response to this Request for Statements of Qualifications will be subject to the provisions of the Public Records Act, Chapter 119, Florida Statutes. Any Consultant claiming that its SOQ contains information that is exempt from Chapter 119, Florida Statutes, must clearly segregate and mark that specific information and provide the specific statutory citation for such exemption. Section 119.071(1)(b), Florida Statutes, exempts sealed SOQ from inspection, examination, and duplication until such time as the Authority issues a notice of intended decision pursuant to Section 120.57(3)(a), Florida Statutes, or within thirty (30) days after the SOQ opening, whichever comes first. This exemption is not waived by the public opening of the SOQ. **ANY QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THIS REQUEST FOR STATEMENT OF QUALIFICATIONS CAN BE DIRECTED TO THE AUTHORITY'S PUBLIC RECORDS CUSTODIAN BY TELEPHONE AT (941) 316-1776, OR BY EMAIL AT PEACERIVER@REGIONALWATER.ORG, OR 9415 TOWN CENTER PARKWAY, LAKEWOOD RANCH, FLORIDA 34202.**

KEY PERSONNEL CHART
(SEE ATTACHMENT A)

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by _____
(Print individual's name and title)

for _____
(Print name of entity submitting sworn statement)

whose business address is _____

and (if applicable) its Federal Employer Identification Number (FEIN) is _____
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____).

2. I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

____ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives,

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list**. (Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

_____
(Signature) (Date)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ____ day of _____, 20____ by _____ as _____ of _____, a _____ company organized under the laws of the State of _____, on behalf of the company, who is personally known to me or has produced _____ as identification.

_____
Notary Public

_____
Name typed, printed or stamped

My Commission Expires: _____

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name:_____

Reference Entity:_____

Reference Contact Person:_____

Reference Address:_____

Reference Email Address:_____

Reference Phone No.:_____

Project Name:_____

Project Location:_____

Consultant Project Manager:_____

Contract Amount:_____

Date Project Commenced:_____

Date of Final Completion:_____

Description of Work Performed:_____

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Consultant shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Consultant employees hired on and after January 1, 2021. Additionally, Consultant shall require all subconsultants performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Consultant must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement

Affidavit

I hereby certify that _____(Contract holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of _____(Contract holder) proof of registration in the E-Verify system is attached to this Affidavit.

_____
Signature Date

_____
Print Name

STATE OF _____

COUNTY OF_____

The foregoing instrument was acknowledged before me by means of □ physical presence or □ online notarization, this _____ day of _____, 20___ by _____ (name of officer or agent, title of officer or agent) of _____(name of Consultant company acknowledging), a _____ (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ (type of identification) as identification.

_____
Notary Public

_____
Name typed, printed or stamped

My Commission Expires: _____

with addendum revisions – March 8, 2023

Agreement for Professional Services for the Peace River Brackish Groundwater Facility Project

This Agreement for Professional Services for the Peace River Brackish Groundwater Facility Project is made by and between Peace River Manasota Regional Water Supply Authority, an interlocal government agency of the State of Florida existing under Sections 163.01 and 373.713, Florida Statutes (the "Authority"), and _____ ("Consultant"), a corporation in the State of _____ and authorized to do business in the State of Florida.

Background

A. The Authority desires to retain Consultant to provide professional design services, engineering, inspection and geological services for feasibility, siting, capacity, design, permitting and construction management for the Brackish Groundwater Facility Project as described in Request for Statements of Qualifications for Professional Design and Engineering Services for the Brackish Groundwater Facility Project issued on February 10, 2023 ("SOQ") and the Scope of Services ("Project").

B. The Authority has selected Consultant in accordance with the Authority's procurement policy, and applicable provisions of Law.

C. Consultant desires to provide the professional services required by the Authority as hereinafter defined;

Terms and Conditions

1. **Background, Exhibits, and Documents.** The background provided above and the following exhibits which are attached, are part of this Agreement. The Information Package and Consultant's submittals provided in response to the Request for Statements of Qualification for this Project are also part of this Agreement as well as any Work Orders executed by the parties.

   Exhibit A – Scope of Services
   Exhibit B – Consultant's 2023 SOQ for Professional Design and Engineering Services for the Brackish Groundwater Facility Project
   Exhibit C – Authority Resolution 2018-01 Resolution Establishing Per Diem and Travel Expenses
   Exhibit D – Consultant's Certificate of Insurance

2. **Definitions**. The following terms as used in this Agreement shall have the following meanings:

   1.1. Agreement – This written document, as it may be amended from time to time and all incorporated documents.

1.2. Law – All laws, statutes, rules, regulations, ordinances, codes and/or orders applicable to the Services.

1.3. Services – The services described in **Exhibit A**, as well as all obligations, duties and responsibilities required of Consultant under this Agreement. The term "Services" also includes all Additional Services which are subsequently authorized in writing by the Authority.

1.4. Additional Services – Subject to paragraph 10 of this Agreement, any services that are authorized by the Authority in a written amendment after this Agreement is executed.

1.5. Subconsultant – All contractors, subcontractors, consultants, subconsultants, suppliers, experts and other entities retained by Consultant to perform or provide any portion of the Services required hereunder.

2. **Effective Date and Term**. This Agreement will become effective on the last date all the parties have executed it, as demonstrated by the date under the signatures on the signature page and will remain effective for _____ years unless it is sooner terminated in accordance with the procedures set forth in this Agreement.

3. **Compensation**.

3.1. **Compensation for Services and Expenses**. For the timely and proper performance of the Services, the Authority shall pay Consultant the compensation set forth in **Exhibit B.** The Authority shall reimburse Consultant for expenses (other than expenses which are included in lump sum payment items) consistent with Section 112.061, Florida Statutes and **Exhibit C**, provided Consultant submits appropriate documentation substantiating the expense and certifies that such claimed expense is true and correct as to every material matter. Consultant shall honor a claim for refund by the Authority if the reimbursement is more than the limits imposed in Section 112.061, Florida Statutes.

3.2. **Accuracy of Rates and Unit Costs**. Consultant hereby certifies that the wage rates and other unit costs supporting the compensation are accurate, complete, and current upon the Effective Date of this Agreement. The Authority will adjust any compensation to be paid under this Agreement, both as set forth in **Exhibit B** or for any Additional Services authorized in writing by the Authority, to exclude any significant sums the Authority determines were increased due to inaccurate, incomplete, or noncurrent wage rates or other unit costs. The Authority may make any such adjustment to compensation within one year of the expiration or termination of this Agreement.

4. **Consultant's Representations and Warranties.** Consultant represents and warrants to the Authority as follows:

4.1. **Conducting Business in Florida**. Consultant is duly authorized to conduct business in the State of Florida.

4.2. **Authority**. Consultant has the full power and authority to execute and deliver this Agreement and to incur and perform the obligations provided for herein, all of which have been duly authorized by all proper and necessary actions of the governing entity of Consultant.

4.3. **Accuracy of SOQ Response**. All information provided by Consultant in response to the Request for Statements of Qualifications for the Project was true and accurate when Consultant submitted it to the Authority and has not materially changed as of the Effective Date of this Agreement.

4.4. **Understanding of Agreement**. Consultant has familiarized itself with and understands this Agreement, the Project, the Services, the Law, the site, and all local conditions that may affect Consultant's performance of this Agreement, including Consultant's compensation and the performance or furnishing of the Services.

4.5. **Discrepancies**. Consultant has reviewed all available information and data shown or indicated in this Agreement and has given the Authority written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered and the Authority's written resolution thereof, if any, is acceptable to Consultant.

4.6. **Expertise**. Consultant has special expertise in the type of professional services to be provided under this Agreement and Consultant acknowledges that such representations were a material inducement to the Authority to enter into this Agreement with Consultant.

4.7. **Valid Agreement**. This Agreement is a valid, binding, and enforceable obligation of Consultant, and does not violate any law, rule, regulation, contract, or agreement otherwise enforceable by or against Consultant except as it may be limited by bankruptcy, insolvency, reorganization, or other similar laws affecting the rights of creditors generally.

4.8. **Scrutinized Companies**. Consultant is in compliance with Section 287.135, Florida Statutes. As required by Subsection 287.135(5), Florida Statutes, Consultant certifies that it is not on any of the following lists: 1) Scrutinized Companies with Activities in Sudan, 2) Scrutinized Companies with Activities in the Iran Petroleum Energy Sector, or 3) Scrutinized Companies that Boycott Israel.

4.9. **Public Entity Crimes**. Consultant is in compliance with Section 287.132, Florida Statutes. The Public Entity Crimes statement required by Subsections 287.133(2) and (3), Florida Statutes provided with Consultant's response to the SOQ is true and accurate on the Effective Date of this Agreement.

4.10. **Discriminatory Vendor List.** Consultant is in compliance with subsection 287.134(2)(a), Florida Statutes. Consultant is not on the discriminatory vendor list maintained by the Florida Department of Management Services under section 287.134,

Florida Statutes.

4.11. E-Verify. Consultant is in compliance with Section 488.095, Florida Statutes. As required by Subsection 488.095(2)(a), Florida Statutes, Consultant has registered with and uses the E-Verify System to verify the work authorization status of all newly hired employees. The E-Verify Statement Consultant submitted with its response to the SOQ remains true and correct.

4.12. No Contingent Fees. As required by Section 287.055(6), Florida Statutes, Consultant warrants that he or she has not employed or retained any company or person, other than a bona fide employee working solely for the architect (or registered surveyor and mapper, or professional engineer, as applicable) to solicit or secure this agreement and that he or she has not paid or agreed to pay any person, company, corporation, individual, or firm, other than a bona fide employee working solely for the architect (or registered surveyor and mapper or professional engineer, as applicable) any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this agreement. If Consultant breaches or violates this provision, the Authority has the right to terminate this Agreement without liability and, at its discretion, to deduct from Consultant's compensation, or otherwise recover, the full amount of such fee, commission, percentage, gift, or consideration.

5. Consultant's Responsibilities.

5.1. Performance of Services. Consultant shall perform the Services upon the terms and conditions set forth in this Agreement and upon any terms required under any government funding agreement. The Project will be completed through a series of sequential Work Orders, all developed in accordance with this Agreement. Consultant shall develop each Work Order, which will include the intended purpose, objectives, services needed in a task-level breakdown, schedule, deliverables, and estimated costs.

5.2. Changes. Consultant shall immediately notify the Authority if anything changes regarding Consultant's representations and warranties contained in this Agreement.

5.3. Resources. Consultant shall secure and maintain an adequate and competent staff of professionals and all facilities and equipment required to perform the Services.

5.4. Key Personnel. Consultant must not remove any key personnel or Subconsultants assigned to the Project without the prior written approval of the Authority. All key personnel shall be available to the Project on a full-time basis, except as otherwise expressly approved in writing by the Authority. Such key personnel are as follows:

_____

_____

5.5. Objectionable Employees. If at any time during the term of this Agreement the

Authority notifies Consultant in writing that any of Consultant's employees or the employees of any Subconsultant are objectionable to the Authority, Consultant shall remove or have the Subconsultant remove the objectionable employee from the Project and not reemploy the objectionable employee on any portion of the Services.

5.6. Consultant's Representative. Consultant shall designate in writing a single representative with the authority to transmit instructions, receive information, interpret, and deliver Consultant's policy and decisions related to the Services and bind Consultant with respect to any matter arising out of or relating to this Agreement.

5.7. Information Related to the Services. Consultant shall obtain and review all information and data which relates to the Services or which Consultant may reasonably anticipate may affect cost, scheduling, progress, performance or furnishing of the Services, including, but not limited to, information and data related to the Project work of others under separate contracts, to the extent that such work may interface with the Services hereunder.

5.8. Status Reports and Inspections. Consultant shall routinely and continuously advise the Authority of the status of the Project, and the Services of Consultant. The Authority and its authorized representatives have the right to visit the site and Consultant's office at any reasonable time Consultant to inspect the Services or any of the drawings or documents of Consultant. Consultant shall maintain documents obtained or generated under this Agreement and make them available upon request by the Authority during the term of this Agreement and for three years after its termination. In addition to the documents and reports contemplated in **Exhibit A**, Consultant shall, at no cost to the Authority, deliver to the Authority copies of all other Project documents and or reports under Consultant's possession or control that the Authority may request from time to time.

5.9. Coordination with Others. Consultant shall cooperate with other engineers, consultants, construction contractors and suppliers retained by the Authority and assist the Authority with the coordination of those various projects, work, and engineering and consulting services. Consultant shall review all information and attend all meetings as shall be reasonably necessary to accomplish the coordination of those various projects, work, and engineering and consulting services, and eliminate any problems where the projects, work or services interface with the Project or Services.

5.10. Laws. Consultant shall secure all licenses or permits required by Law for the performance of the Services and shall comply with all Laws in effect at the time of the execution of this Agreement and the time of performance of the Services.

5.11. No Discrimination. Consultant shall comply with Title VII of the Civil Rights Act of 1964, as amended, and the Florida Civil Rights Act of 1992. Consultant shall not discriminate in any form or manner against its employees or applicants for employment on the basis of race, color, national origin, religion, sex, age, handicap, or marital status. Further, Consultant shall comply with all applicable rules, regulations or executive

orders promulgated to give effect to the Civil Rights Act of 1964, as amended.

5.12. Standard of Care. Consultant shall perform the Services in a professional manner in accordance with applicable professional standards consistent with that level of care and skill ordinarily exercised by other competent professionals with expertise in the type of services required in this Agreement practicing under similar conditions at the same time and locality of the Project.

5.13. Notice of Claims. Consultant shall immediately notify the Authority if it becomes aware of any circumstances which may reasonably give rise to any claim against the Authority for Services performed under or related to the Services performed under this Agreement.

5.14. No Conflicts of Interest. Consultant is not under contract and will not contract for or accept employment for the performance of any work or services with an individual, business, corporation, or government unit that would create a conflict of interest in the performance of its obligations under this Agreement.

6. Authority's Responsibilities.

6.1. Applications for Payment. The Authority shall review and consider, in a reasonably prompt and thorough fashion, all applications for payments, reports, schedules, estimates, drawings, proposals or other documents presented to the Authority by Consultant and shall inform Consultant of the Authority's decisions or otherwise take appropriate action within a reasonable time to not unreasonably delay the Services of Consultant.

6.2. Authority's Representative. The Authority shall designate in writing a single representative with authority to transmit instructions, receive information and interpret and deliver the Authority's policy and decisions pertinent to the Services.

6.3. Existing information. Upon Consultant's specific request, the Authority shall cooperate in providing to Consultant, all existing and available studies, reports, surveys, and other information and data regarding the Project to the extent such items are in the Authority's possession and the Authority has actual knowledge of their existence and location. Despite any other provision of this Agreement, the Authority does not represent or warrant the accuracy or completeness of any such items, unless it is expressly noted otherwise in writing on such item.

7. Change of Plan.

7.1. Authority's Right. The Authority has the absolute right to terminate, suspend, or amend the Services or the Project at any time and for any reason, and such action on its part shall not be deemed a default or breach of this Agreement. Any such termination, suspension, or amendment shall be in writing.

7.2. Remedies. If the Services or Project is entirely or partly suspended for one or more

periods of time Consultant will have no claim for compensation for the suspended period(s). Upon resumption of the Services or Project, Consultant shall resume the Services until the Services are completed in accordance with this Agreement, and the time for completion of the Services which were suspended shall be extended for the period of the suspension. If the cumulative total of such suspensions, excluding periods of suspension during the design phase, is 270 days or less, the extension of time shall be Consultant's sole remedy. If the cumulative total of such suspensions is more than 270 days, Consultant's sole remedy shall be to terminate this Agreement according to the provisions of paragraph 8.

8. Termination of Agreement.

8.1. Termination for Convenience. The Authority has the right to terminate this Agreement, in whole or in part without cause upon written notice to Consultant. In such event, Consultant's sole and exclusive recovery against the Authority will be limited to that portion of Consultant's compensation earned to the date of termination, together with any costs reasonably incurred by Consultant that are directly attributable to the termination. The Consultant shall not be entitled to any further recovery against the Authority, including, but not limited to, anticipated fees or profits on Services not required to be performed. The Authority in its sole discretion shall determine that portion of the compensation earned for any incomplete Services based upon the ratio of such part of the Services completed relative to the entire Services. Termination without cause shall be effective upon delivery of written notice to Consultant.

8.2. Termination for Cause. Consultant shall be considered in material default of this Agreement and the Authority may terminate this Agreement, in whole or in part, for any of the following reasons: (a) failure to begin Services within the time specified in a Work Order, or (b) failure to timely and properly perform the Services required hereunder or as directed by the Authority, or (c) the bankruptcy or insolvency or a general assignment for the benefit of creditors by Consultant or by any of Consultant's principals, partners, officers or directors, or (d) failure to obey any Law, or (e) failure or refusal to allow public access to all public record documents or other materials made or received by Consultant in conjunction with this Agreement, unless exempt under Florida law, or (f) any other material breach of this Agreement. In any such event, the Authority may terminate this Agreement, in whole or in part, by giving Consultant written notice. In the event of any such termination for cause, the Authority is not obligated to make any further payments to Consultant hereunder until such time as the Authority has determined all costs, expenses, losses and damages which the Authority may have incurred as a result of such default by Consultant, whereupon the Authority shall be entitled to set off all costs, expenses, losses and damages so incurred by the Authority against any amounts due Consultant hereunder. Termination for cause will be effective upon 14 days written notice to Consultant.

8.3. Violation by Authority. If the Authority violates any provision of this Agreement, and if the violation continues for 60 days after Consultant has delivered written notice of the violation, then Consultant may, without prejudice to any other right or remedy, terminate

or cancel this Agreement by giving the Authority 14 days written notice of termination. In the event of any such termination by Consultant, Consultant's sole and exclusive remedies against the Authority will be limited to those set forth in paragraph 8.1 above.

8.4. Notice and Cure. Despite the provisions of paragraphs 8.2 and 8.3, this Agreement will not terminate for cause if the party receiving the notice begins, within seven days of receipt, to correct its failure and proceeds diligently to cure such failure within thirty 30 days of receipt of the notice; provided, however, that if and to the extent such cause for termination cannot reasonably be cured within such 30 day period, and if such party has diligently attempted to cure the same and thereafter continues to diligently cure the same, then the cure period may be further extended by the party that provided the notice.

8.5. Remedies if no Default. If, after termination of this Agreement as provided for in paragraph 8.2 above, it is determined for any reason that Consultant was not in default, or that its default was excusable or that the Authority otherwise was not entitled to the remedy against Consultant provided for in paragraph 8.2, then such termination for cause shall be deemed to be a termination for convenience as described in paragraph 8.1 and Consultant's sole and exclusive rights and remedies against the Authority shall be the same as and limited to those afforded Consultant under paragraph 8.1 above.

8.6. Delivery of material after termination. Within 10 days after any termination of this Agreement, Consultant shall deliver to the Authority all papers, drawings, models, and other material prepared by and for Consultant with respect to the Project and Services.

9. Waiver.

9.1. Acceptance of Final Payment. Consultant's acceptance of final payment constitutes a full waiver of all claims by Consultant against the Authority arising out of and relating to this Agreement or otherwise related to the Project, except those previously made in writing and identified by Consultant as unsettled at the time it submits its invoice for final payment. Neither the acceptance of the Services nor any payment by the Authority shall be deemed to be an acceptance of defective or incomplete Services or waiver of any of the Authority's rights against Consultant.

9.2. Non-enforcement. Non-enforcement of any provision of this Agreement by either party shall not constitute a waiver of that provision nor shall it affect the enforceability of that provision or the remainder of this Agreement.

10. Additional Services.

10.1. Notice to Authority. If Consultant is of the opinion that any services the Authority directs it to perform are beyond the Scope of the Services under this Agreement, Consultant shall, within seven business days of such direction, notify the Authority in writing of its opinion. The Authority shall, within 10 business days after receipt of such notification, determine whether such service is beyond the scope of this Agreement and constitutes Additional Services. If the Authority determines that such service does

constitute Additional Services, it will provide extra compensation to Consultant based upon the rates and terms provided in **Exhibit B**.

10.2. Project Schedule. If, in the opinion of the Authority, the progress of the Services during any period is substantially less than the amount which is necessary to meet the Project schedule, the Authority may require Consultant to take whatever action is necessary, in the opinion of the Authority, to put the Services back on schedule. Such action shall not constitute Additional Services unless the delays were caused by circumstances beyond the control and fault of Consultant or its agents, employees and Subconsultants.

10.3. Claims against the Authority. In the event of claims by others against the Authority in connection with the Project or the Services, Consultant shall provide to the Authority such technical assistance that the Authority may request. Such assistance shall constitute Additional Services, unless such claims are caused by the failure of Consultant, its agents, employees or Subconsultants to comply with the terms and conditions of this Agreement or otherwise perform their duties under this Agreement.

10.4. Delays more than and less than 30 days. Subject to the provisions of paragraph 10.2 above, Consultant shall not make any charges or claims for damages for any delays or hindrances of less than 30 days from any cause whatsoever during the progress of any portion of the Services. The Authority may compensate such delays or hindrances of less than 30 days by an extension of time as the Authority may decide. However, any such extension shall not operate as a waiver of any other rights of the Authority. The Authority will consider delays or hindrances that exceed 30 days and will determine whether any additional services are needed from Consultant unless such delays or hindrances were caused in whole or in part by Consultant, its employees, agents, or Subconsultants or because of a suspension of the Project or Services entirely or partly by the Authority. This paragraph does not apply to suspensions of the Project or Services by the Authority, which suspensions will be governed by paragraph 7.

10.5. Audit. If the Authority requires Consultant to provide it with an audit of its Project costs, such audit will not be considered Additional Services.

11. Assignment and Subconsultants. Consultant shall not sublet, assign, or transfer this Agreement or any Services without the prior written consent of the Authority, which consent may be withheld in the Authority's sole discretion. Consultant shall be solely responsible for the employment, direction, supervision, compensation, and control of any and all Subconsultants. Consultant shall cause all Subconsultants to abide by the terms and conditions of this Agreement and all Laws. All agreements between Consultant and Subconsultants shall be in writing, with a copy of such agreements to be provided to the Authority upon its request for same.

12. Indemnification. Consultant shall indemnify and hold harmless the Authority, and its officers and employees, from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or

intentionally wrongful conduct of the Consultant and other persons employed or utilized by the Consultant in the performance of the contract.

13. Consultant's Insurance Requirements.

13.1. Consultant must maintain during the entire term of this Agreement, insurance in the following kinds and amounts with a company or companies authorized to do business in the State of Florida and shall not commence work under this Agreement until the Authority has received an acceptable certificate of insurance showing evidence of such coverage. The amounts and types of insurance shall be appropriate for the services being performed by the Consultant, its employees or agents and must conform to the following minimum requirements:

13.1.1. Workers Compensation. Coverage must apply for all employees and subcontractors with statutory limits in compliance with the applicable state and federal laws. In addition, the policy must include the following Employer's Liability with a minimum limit per accident in accordance with statutory requirements.

a. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.
b. Agent(s) must be in compliance with all applicable state and federal workers' compensation laws.

13.1.2. Commercial or Comprehensive General Liability. Coverage must include:

a. $2,000,000.00 combined limit per occurrence for bodily injury, personal injury and property damage.
b. Contractual coverage applicable to this specific contract, including any hold harmless and/or indemnification agreement, broad form property damage, explosion, collapse, and underground hazard coverage and independent contractor's coverage.
c. Additional Insured. Authority is to be specifically included as an additional insured.
d. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.

13.1.3. Comprehensive Automobile Liability. Coverage must be afforded on a form no more restricted than the latest edition of the Comprehensive Automobile Liability Policy filed by the Insurance Services Office and must include:

a. $1,000,000.00 combined single limit per accident for bodily injury and property damage.
b. Owned Vehicle.
c. Hired and Non-Owned Vehicles.
d. Employee Non-Ownership.
e. Additional Insured. Authority is to be specifically included as additional insured.

f. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.

13.1.4. Watercraft/Aircraft Liability. If Consultant's provision of services involves utilization of watercraft or aircraft, watercraft and/or aircraft liability coverage must be provided to include bodily injury and property damage arising out of ownership, maintenance or use of any watercraft or aircraft, including owned, non-owned and hired.

13.1.5. Professional Liability. Coverage must include:

a. Minimum limit of $2,000,000.00 per occurrence or claim of malpractice, negligence, error and omissions.
b. Minimum limit of $2,000,000.00 in the aggregate for claims of malpractice, negligence, error and omissions.
c. If a claims made form of coverage is provided, the retroactive date of coverage shall be no later than the inception date of claims made coverage, unless the prior policy was extended indefinitely to cover prior acts.
d. Notice of Cancellation and/or Restriction. The policy must be endorsed to provide Authority with thirty (30) days written notice of cancellation and/or restriction.
e. Professional liability insurance shall continue in force until the end of the fifth calendar year following the calendar year in which the Agreement is terminated. The current professional liability insurance policy, if not renewed, shall provide for an extended reporting period on the existing policy through said fifth calendar year.

13.2. The required Certificates of Insurance not only shall name types of policies provided but also shall refer specifically to the Agreement.

13.3. Insurance coverage shall be placed with insurers or self-insurance funds, satisfactory to the Authority, licensed to do business in the State of Florida and with a resident agent designated for the service of process. Consultant shall provide the Authority with financial information concerning any self-insurance fund insuring Consultant. At the Authority's option, self-insurance fund financial information may be waived.

13.4. All the policies of insurance so required of Consultant, except workers compensation and professional liability, shall be endorsed to include as additional insureds: the Authority, its directors, officers, employees and agents as well as the Southwest Florida Water Management District as it may require through a funding agreement for the Project. Such insurance policies shall include or be endorsed to include a cross liability clause so the additional insureds will be treated as if a separate policy were in existence and issued to them. If the additional insureds have other insurance, which might be applicable to any loss, the insurance required of Consultant shall be considered primary, and all other insurance shall be considered excess. The cross liability clause does not increase the limits of liability or aggregate limits of the policy.

13.5. Deductible and self-insured retention amounts shall be subject to approval by the Authority, which approval shall not be unreasonably withheld. Consultant is responsible for the amount of any deductibles or self-insured retentions.

13.6. Approval of the insurance by the Authority shall not relieve or decrease the liability of Consultant hereunder. Consultant acknowledges and agrees the Authority does not in any way represent the insurance (or the limits of insurance) specified in this Section 14 is sufficient or adequate to protect Consultant's interests or liabilities, but are merely minimums.

13.7. All of the policies of insurance required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed, or renewal refused, until at least thirty (30) days prior written notice has been given to the Authority and Consultant by certified mail. Consultant shall give notice to the Authority within twenty-four (24) hours of any oral or written notice of adverse change, non-renewal or cancellation. If the initial insurance expires prior to completion of the work, renewal Certificates of Insurance shall be furnished thirty (30) days prior to the date of their expiration.

13.8. All insurance required hereunder shall remain in full force and effect until final payment and at all times thereafter when Consultant may be observing the correction, removal or replacement of defective work.

13.9. Professional liability insurance shall continue in force until the end of the fifth calendar year following the calendar year in which the Agreement is terminated. The current professional liability insurance policy, if not renewed, shall provide for an extended reporting period on the existing policy through said fifth calendar year.

13.10. Consultant shall, upon request by the Authority, deliver to the Authority a copy of each insurance policy purchased by Consultant.

13.11. All policies, except for workers' compensation and professional liability, shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of subrogation against the Authority, its consultants, directors, officers, employees, representatives or agents. Nothing contained in these insurance requirements is to be construed as limiting the liability of Consultant or Consultant's insurance carriers.

13.12. The commercial (occurrence form) or comprehensive general liability (occurrence form) insurance shall include contractual liability insurance applicable to all of the Consultant's obligations under the Agreement, including any indemnity or hold harmless provision.

13.13. Consultant shall ensure that all Subconsultants procure and maintain, until the completion of that party's Services, insurance of the types and in the coverage amounts required to be carried by Consultant in this Agreement unless the Authority agrees in writing, in advance of Consultant's employment of any such Subconsultant, to other

types of coverage and/or lower coverage amounts. Provided however, that professional liability insurance shall not be required under this Agreement for Subconsultants, unless such party is a licensed professional. The preceding sentence does not preclude Consultant from requiring such insurance. Consultant is responsible for ensuring that all Subconsultants comply with all the insurance requirements contained herein relative to each such party.

14. **Standard of Performance.** Consultant shall perform and complete the Services in a timely manner and in accordance with the standard of care, skill, and diligence customarily provided by professionals with expertise and experience in the type of Services to be provided hereunder, and in accordance with sound professional principles and practices. Consultant acknowledges that it has represented to the Authority that Consultant has expertise and experience in the type of services to be rendered hereunder and that such representation was a material inducement to the Authority to enter into this Agreement with Consultant.

15. **Project Documents and Data.**

15.1. One (1) copy of all technical data and working papers regarding the Services, whether existing in the office of the Authority or in the office of Consultant, shall be made available to the other party to this Agreement without expense to such other party. Additional copies shall be made available at the expense of the requesting party.

15.2. All Project documents, tracings, plans, specifications, maps, evaluations, reports, technical data, and computer application code, other than working papers prepared or obtained under this Agreement, are the property of the Authority without restriction or limitation of use, and shall be made available, upon request, to the Authority at any reasonable time. Consultant, at its own expense, may retain copies thereof for its files and internal use. Any use by the Authority of such materials obtained under this Agreement for any other Project or use of incomplete materials obtained from Consultant by the Authority shall be made at the risk of the Authority. However, this does not constitute a disclaimer of the professional liability of Consultant with respect to the original Services as used for the Project.

15.3. All final plans and documents that are required by Florida Law to be endorsed and are prepared by Consultant in connection with the Services shall bear the endorsement of a person in the full employment of Consultant or duly retained by Consultant and duly licensed in the appropriate professional category.

15.4. Consultant shall make any patentable product or result of the Services and all information, design, specifications, know-how, data, and findings available to the Authority without cost to the Authority. No material prepared in connection with this Project will be subject to copyright by Consultant, all such copyrights being the property of the Authority. the Authority shall have the right to publish, distribute, disclose, and otherwise use any material prepared by or for Consultant

with respect to the Project. Any use of material or patents obtained by the Authority under this Agreement for any purpose not associated with this Project shall be at the risk of the Authority. In the Authority's discretion, whenever any renderings, photographs of renderings, photographs of models or photographs of the Project are released by the Authority for publicity, proper credit may be given to Consultant, provided the giving of such credit is without cost to the Authority.

15.5. Consultant must not make any statements, press releases or public releases concerning this Agreement or its subject matter or otherwise disclose or permit to be disclosed any of the data or any other information obtained or furnished in compliance with this Agreement, except at meetings where representatives of the Authority are present, without the Authority's prior written consent. Consultant shall not publish, copyright, or patent any of the data furnished or developed with respect to the Project without first obtaining the Authority's written consent, as all such rights are the property of the Authority.

16. **Audit Rights.** Consultant shall keep all books, records, files, plans, drawings, and other documentation, including all electronically stored items, which concern or relate to the Services hereunder (collectively referred to herein as "Records") for a minimum of three (3) years from the date of expiration or termination of this Agreement or as otherwise required by Law, which ever date is later. the Authority, or any duly authorized agents or representatives of the Authority, shall have the right to audit, inspect and copy all or such Records as often as they deem necessary during any such period of time. This right to audit, inspect and copy the Records shall include all Records of Subconsultants.

17. **Public Records.**

17.1. **Duty to Maintain and Provide Records.** Consultant shall keep and maintain all public records required to perform services under this Contract as required by Chapter 119, Florida Statutes. All analyses, data, documents, models, modeling, reports, and tests performed or utilized by Consultant shall be made available to the Authority upon request and are considered public records in accordance with Chapter 119, Florida Statutes, unless they are exempt under the Law.

17.2. IF CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONSULTANT'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE AGENCY'S CUSTODIAN OF PUBLIC RECORDS AT PHONE (941) 316-1776; EMAIL – PEACERIVER@REGIONALWATER.ORG; OR MAIL – 9415 TOWN CENTER PARKWAY, LAKEWOOD RANCH, FLORIDA 34202.

17.3. **Post Contract Responsibilities**. Upon completion of this contract, Consultant

shall keep and maintain, at no cost, to the Authority, all public records produced under this Agreement in the possession of the Consultant or shall transfer them to the Authority. If the Consultant transfers all public records to the Authority, Consultant shall destroy any duplicate public records. If Consultant keeps and maintains public records after completion of the contract, the Consultant shall meet all legal requirements for retaining public records including the rules and retention schedules adopted by the Division of Library and Information Services of the Department of State under Section 119.021(2)(a), Florida Statutes. All records stored electronically must be provided to the Authority upon request from the Authority in a format that is compatible with the information technology systems of the Authority.

17.4. Exempt Records. Consultant shall ensure that public records that are exempt from public records disclosure are not disclosed except as authorized by law during the term of this Agreement and following its completion if the Consultant does not transfer the records to the Authority.

18. <u>Miscellaneous Provisions</u>.

18.1. Entire Agreement. This written document shall constitute the entire agreement between the parties hereto and the Agreement shall not be amended or modified except in writing duly executed by the party against whom such an amendment or modification is sought to be enforced. This Agreement shall govern the relationship between the Authority and Consultant on the Project.

18.2. Successors. the Authority and Consultant each hereby binds itself, its successors, assigns, and legal representatives to the other.

18.3. No Third-Party Beneficiaries. The rights and obligations in this Agreement shall inure solely to the parties hereto (their successors, assigns and legal representatives) and no other party shall have any rights or obligations under or by virtue of this Agreement.

18.4. Applicable Law and Venue. This Agreement shall be governed by and construed under the laws of the State of Florida. Venue for any action under state law arising under this Agreement shall be in the Twelfth Judicial Circuit of Florida. Claims justiciable in federal court shall be in the Middle District of Florida.

18.5. Notices. All notices or other communications permitted or required under this Agreement must be in writing and must be sent to the party at that party's address set forth below or a whatever other address the party specifies in writing. Notices must be personally delivered, sent by certified or registered mail, or sent by overnight courier, postage prepaid.

If to the Authority:

_____,_____
Name Title

Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, Florida 34202

If to Consultant:

_____
_____
_____

18.6. No Construction Against Drafting Party. Each party acknowledges that it has carefully reviewed and understands this Agreement and has had an opportunity to review it with counsel of its choosing. This Agreement shall not be construed more strongly against any party, regardless of who drafted or prepared it.

18.7. Communications. The Consultant's communications with the Authority shall be limited to the Authority's Executive Director and designated staff. Communications with the Authority's Board Members are prohibited, except with the prior permission of the Authority's Executive Director or at a duly noticed public board meeting. Any such prohibitive communications shall be deemed to be a material breach of this Agreement by Consultant. This provision does not prohibit or limit contacts by or on behalf of the Authority Board Members with Consultant.

18.8. Interpretation. All words used herein in the singular shall extend to and include the plural, and the use of any gender shall extend to and include all genders. Unless the context requires otherwise: The term "include" contemplates "including but not limited to." The terms "hereof," "herein," "hereunder" and similar terms in this Agreement refer to this Agreement as a whole and not to any particular provision of this Agreement.

18.9. Headings. The captions and headings herein are for convenience of reference only and in no way define or limit the scope or content of this Agreement or in any way affect its provisions. Unless otherwise indicated, references to paragraphs include all subparts.

18.10. Time is of the Essence. Time is of the essence of this Agreement and each of its provisions.

18.11. No Waiver. Unless expressly stated in writing, no action taken by a party to this Agreement shall be considered a waiver by such party of compliance with any representations, warranty, duty, or responsibility under this Agreement.

18.12. Contest of Authority Decisions. The Authority shall decide all questions, difficulties, and disputes of any nature whatsoever that may arise under or by reason of this Agreement, the prosecution and fulfillment of the Services called for hereunder, or the character, quality, amount, or value thereof. The decision of the Authority upon all such claims, questions or disputes shall be final and binding if not contested by Consultant in a written notice delivered to the Authority within seven days after Consultant's receipt of written notice from the Authority concerning such decision. Consultant shall not delay or postpone providing Services during the pendency of any dispute.

18.13. Survival. All express representations, indemnifications, or limitations made or given in this Agreement shall survive its completion or termination for any reason.

18.14. Severability. If any term of this Agreement is for any reason invalid or unenforceable, the rest of the Agreement remains fully valid and enforceable.

18.15. Independent Contractor. Consultant is retained by the Authority only for the purposes and to the extent set forth in this Agreement, and its relationship with the Authority shall, during the term of this Agreement, be that of an independent contractor. Consultant shall have the discretion, subject to the requirement that it perform the services required hereunder competently and professionally in accordance with the applicable professional standards and otherwise comply with the terms of this Agreement, to select the means and methods of performing such services. In this regard, Consultant shall be fully responsible for the employment, direction, supervision, compensation, and control of all persons employed or retained by Consultant. Neither Consultant nor Consultant's contractors, subcontractors, consultants, subconsultants, suppliers, experts or other persons or organizations retained or utilized by Consultant for the services required hereunder ("Subconsultants") shall be considered by reason of the provisions of this Agreement or otherwise as being an employee or agent of the Authority. Consultant shall comply with all workers' compensation, employers' liability and other Federal, State and county and municipal laws, ordinances and regulations required of an employer performing services as herein contemplated. Provided, however, in no event shall the Authority be obligated to pay Consultant any overtime or other premium pay compensation unless such overtime or premium compensation was expressly approved in writing and in advance by the Authority. Furthermore, Consultant is responsible for paying all income and employment taxes, and the Authority shall not be responsible for collecting or paying withholding, FUTA, FICA or any other state or federal taxes.

18.16. Waiver of Jury Trial. To the extent permitted by applicable law, Consultant and the Authority irrevocably waive any right to trial by jury in any legal proceeding arising out of or relating to this Agreement or any of the transactions contemplated by it. Neither the Authority nor Consultant or any successor thereof will seek a trial by jury in any action or proceeding (whether at law or in equity, whether direct or collateral, whether in contract or in tort) arising out of or related to this Agreement

or the relationship created by it. Neither the Authority nor Consultant shall seek to consolidate any action or proceeding in which trial by jury has been waived with any other action or proceeding in which a jury trial cannot be or has not been waived.

18.17. Authority's Right to Terminate under Section 287.135, Florida Statutes. As set forth in Section 287.135, Florida Statutes, the Authority reserves the right to terminate this Agreement and any contract for goods or services if Consultant: has been found to have submitted a false Scrutinized Vendor List certification; has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Section List; has been engaged in business operations in Cuba or Syria; or has been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel.

[The remainder of this page is blank]

The parties have caused their duly qualified representatives to execute this Agreement on the dates set forth below.

Witnesses:

_____
Signature

_____
Print name

_____
Print title

_____
Date

_____
Signature

_____
Print name

_____
Print title

_____
Date

Consultant:

_____
Firm Name

_____
Signature

_____
Print name

_____
Print title

_____
Date

Attest:

_____
Signature

_____
Print name

_____
Print title

_____
Date

Approved as to legal sufficiency:

_____
Douglas P. Manson, General Counsel

Peace River Manasota Regional Water Supply Authority:

_____
Signature

_____
Print name

_____
Print title

_____
Date

Exhibit A
Scope of Services

Implementation of the Brackish Groundwater Facility Project (Project) will require multi-disciplinary expertise. The professional services for the Project through the 30% design stage are expected to include, but are not necessarily limited to:

1. Peer review of the information identified in the Background Materials section herein and other publicly available information, and provision of pertinent observations regarding technical and permitting issues the Consultant believes have the potential to affect successful and timely accomplishment of the proposed Project, and associated recommendations to overcome them. Efforts would also include evaluation of technologies for brackish water treatment and advantages and disadvantages for each approach for the Authority's consideration, including economic and non-economic considerations.

2. Review and evaluation of the current approach to wellfield design and permitting, including any recommended revisions, and implementation of Authority-approved modifications, if any.

3. Professional Engineering and Geology design, oversight, and completion of a brackish groundwater well construction, development, and testing program. This shall include development of well construction and testing specifications, individual well testing during construction, aquifer performance testing to characterize aquifer production and confinement characteristics, and natural background brackish groundwater quality. The program will be designed to optimize well production while minimizing the potential for saline water upconing and avoiding adverse impacts to the Authority's ASR system and other surrounding water users.

4. Development of a Technical Memorandum (TM) that describes the exploratory well construction and testing program, its results, and associated observations and recommendations. This shall include but not be limited to documentation of well construction and testing program results and observations and predicted changes to natural background conditions (saline water upconing) under active wellfield conditions to assist the engineer of record in designing an effective and resilient supply and water treatment system.

5. Should the Authority determine that a change in wellfield configuration, withdrawal quantities, or well specifications is necessary during the 30% design period, Consultant shall update them accordingly, and provide technical and regulatory support for modification of the Authority's WUP to increase quantities and add production wells.

6. Numerical groundwater flow modeling using the SWFWMD's DWRM 4.0 model.

7. Surveying, geotechnical investigation, subsurface investigations, construction management/inspection, and hydraulic modeling.

8. Recommendation of a water treatment system for the brackish groundwater supply that will provide the flexibility to withstand projected changes in raw water salinity and ensure long

term sustainability, resiliency, and reliability under active wellfield conditions.

9. Preliminary evaluation of potential compatibility of injectate waters with injection zone formations and recommendations for associated pretreatment methods that may be necessary to avoid potential formation clogging.

10. Completion of 30% design drawings and outline technical specifications for production, monitoring and deep injection wells, pumping, conveyance, water treatment facilities, concentrate disposal-related facilities, and SCADA monitoring systems that will conform to SWFWMD Cooperative Funding Initiative Guidelines (Fiscal Year 2024). This shall include an AACE estimation of probable cost (total and itemized) and a schedule for completion of design, permitting and construction of the project.

11. Recommended next steps and schedule should the Authority select the Brackish Groundwater Facility Project as its next water supply development project.

Exhibit B

Consultant's 2023 SOQ for Professional Services for the Brackish Groundwater Facility Project

Exhibit C

Authority Resolution 2018-01 Resolution Establishing Per Diem and Travel Expenses

Exhibit D
Certificate of Insurance

TAB C
Submitted Proposals (Electronic)

AECOM

Statement of Qualifications for
Peace River Manasota Regional Water Supply Authority

Peace River Brackish Groundwater Facility Project

March 13, 2023







Delivering a better world

Contents

Cover Letter 1

Section 0 Background
- 0.1 Legal Name, Address, Phone Number, Contact 3
- 0.2 Principal Office Locations of Submitting Consultant 3
- 0.3 Legal Form of Company 3
- 0.4 FL Professional Licenses 4
- 0.5 Disclosure of Representation 4
- 0.6 Disclosure of Litigation 5

Section 1 Project Manager & Management
- 1.1 Project Manager 6
- 1.2 Project Management Approach 7

Section 2 Consultant Team's Engineering Experience
- 2.1 Resumes of Key Personnel 9
- 2.2 Project Examples 12

Section 3 Consultant Team's Hydrogeologic Experience
- 3.1. Hydrogeologic Resumes of Key Personnel 18
- 3.2 Hydrogeologic Project Examples 18
- 3.3 Organizational Chart 26

Section 4 Preliminary Project Understanding, Approach, and Schedule
- 4.1 Project Understanding and Approach 27
- 4.2 Brackish Groundwater Wellfield 30
- 4.3 Approach to Design, Oversight 32
- 4.4 SWFWMD Regulatory Background 34
- 4.5 Understanding and Approach to SCADA System Design 36
- 4.6 Cost Estimating Approach 36
- 4.7 Preliminary Engineering Schedule 38

Section 5 Well Construction Contractor Approach
- 5.1 Well Construction Contractor 39
- 5.2 Well Construction Contractor Approach 39

Section 6 Required Forms
- Key Personnel Chart (Attachment A) 41
- E-Verify Affidavit 42
- E-Verify Proof of Verification 43
- Public Entity Crimes 49
- References Forms 51
- Acknowledgment of Addendum 1 54

AECOM

4415 Metro Parkway
Suite 404
Fort Myers, FL 33916

www.aecom.com
(239) 278-7996 tel
(236) 278-0913 fax

March 13, 2023

Peace River Manasota
Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, Florida 34202

RE: Peace River Brackish Groundwater Facility Project

Dear Members of the Selection Committee:



The Peace River Manasota Regional Water Supply Authority (Authority) is seeking a well-qualified firm to provide professional engineering services for the Peace River Brackish Groundwater Facility project. AECOM Technical Services, Inc. (AECOM) is committed to partnering with the Authority's management and operations staff on the successful delivery of your project. We understand the objective of the initial work order for this project is to complete preliminary engineering and prepare a Class 3 construction cost estimate, which will enable the Authority to select its next water supply project at the April 2024 Board meeting.

AECOM is a national leader in every aspect of water supply planning and potable treatment plant design and construction and is uniquely qualified to serve the Authority on this very important and complex contract. Selecting AECOM will provide the Authority with:

Outstanding leadership to deliver a successful project. Chris Hill, PE, BCEE, ENV SP, will be AECOM's project manager for all work performed under this contract. Chris brings more than 30 years of experience on complex, multi-disciplinary project management and is highly qualified to lead your project. His experience includes water supply development, process evaluation, preliminary and detailed design, cost estimating and construction management on nearly 2.5 billion-gallons-per-day (BGD) of water supply and treatment. He has managed dozens of projects in his nearly three decades of experience ranging in size from tens of thousands of dollars to multi-million-dollar efforts with large multi-disciplined teams.

An exceptional team of hydrogeologists with excellent knowledge of local water supply sources. Our team of hydrogeologists includes David Brown, PG, and Joseph Haber, PG, of RESPEC Company LLC (RES), Mark McNeal, PG, from ASRus, Inc. (ASR) and Mike Bennett, PG (AECOM). Together they have a combined total experience of more than 100 years. In addition, our team members have worked extensively with the Authority over the past 15 years. David Brown and Joseph Haber assisted the Authority in permitting the 9.0-mgd brackish water wellfield consisting of an additional 10 production wells, which will be the source of water for this project. Mark McNeal has significant experience working with the Authority on your aquifer storage and recovery (ASR) system and in all aspects of deep injection well (DIW) systems. Mike Bennett, formerly worked with the South Florida Water Management District (SFWMD) and has extensive experience on both DIWs and water supply wellfields and groundwater modeling.

An outstanding team of potable water treatment plant process design engineers. Our team of Engineers includes Chris Hill, PE, Will Lovins, Ph.D., PE and Bill Snow, PE (AECOM) and Joseph Naylor, PE (F&N). Together, they also have a combined total experience of over 100 years. Dr. Lovins will be assigned as the preliminary engineering manager and is adept in tailoring desalination treatment systems to site-specific applications for optimal raw water conversion efficiency (recovery), power consumption, energy recovery, chemical consumption and salt rejection. He also has extensive experience working with the Authority and had an active role in the preliminary investigation of Brackish Groundwater Development Opportunities at the PRF and Conceptual Design of RO Facilities. Bill Snow will be assigned as the design manager and has significant design experience in the field of water treatment, water supply, and utility

operations with both private and municipal clients. His expertise includes ion exchange, reverse osmosis, and membrane softening plants. Our team also brings significant facilities planning and design experience on all of the disciplines that will be needed for your project.

A team committed to achieving your schedule on this project. AECOM understands the Authority's concern on the availability of qualified well drilling contractors to complete the Avon Park Test Production Well construction within the time frame stipulated in the RFQ. Consequently, AECOM has entered into an exclusive teaming agreement with Applied Drilling Engineering, Inc. (ADE) that will be ready to mobilize to the PRF within 30 days after Board approval of the contract and Work Order No. 1. AECOM has already developed a summary of work related to the Avon Park Test Production Well Plan and prepared a line item summary of each major work component related to construction and testing of the Test Production Well along with estimated quantities. ADE has committed to having the appropriately sized drill rig, support equipment and staff to meet an early July 2023 start date and to complete all work by December 1, 2023.

Firm that has proven track record of successfully completing projects with the Authority: Over the past 30 years AECOM has completed many important projects for the Authority, including the PRF Water Quality Master Plan, Design and Construction of the Peace River Option and the Facility Expansion Program, Preliminary Investigation of Brackish Groundwater Development Opportunities at the PRF and Conceptual Design of RO Facilities, and is currently assisting the Authority on design and construction of a the Plant #1 Clarifiers under a Master Services Agreement (MSA). We regularly attend the Authority Board meetings and have an ongoing understanding of the Authority's strategic objectives.

AECOM is proud of the relationship that we have established with the Authority over the past 30 years. On behalf of our team, we look forward to partnering with the Authority on this important project. We give you our personal commitment to producing quality work, on time and within budget, and to the Authority's satisfaction. Please do not hesitate to call us at (239) 989-2575 if you have any questions or require additional information. We look forward to presenting our qualifications and experience in greater detail.

Sincerely,
AECOM Technical Services, Inc.

Ronald Cavalieri, PE, BCEE, Principal-in-Charge
(239) 278-7996 I ronald.cavalieri@aecom.com

Chris Hill, PE, BCEE, ENV SP, Project Manager
(813) 347-3047 I Christopher.Hill@aecom.com

AECOM

Section 0
Background





Peace River, Brackish Groundwater Facility



Ronald Cavalieri, PE, BCEE, has more than 37 years of experience and has a broad range of civil/environmental engineering experience including master planning, water and wastewater treatment plant facilities design and construction, computer analysis and design of water transmission and distribution systems, wastewater collection and conveyance system modeling and design, and hydraulic analysis and design of potable water and wastewater pumping stations. He is a Board Certified Environmental Engineer (BCEE) by the American Academy of Environmental Engineers. Ron is AECOM's authorized representative for this contract.

0.1 Legal Name, Address, Phone Number, Primary Contact E-mail

AECOM Technical Services, Inc.
4415 Metro Pkwy, Suite 404, Fort Myers, FL 33916
(239) 278-7996, Ronald.Cavalieri@aecom.com

0.2 Principal Office Locations of Submitting Consultant

Provided on the map below are the principal office locations for AECOM, and our proposed subconsultants.

0.3 Legal Form of Company

AECOM Technical Services, Inc., is a California corporation authorized to transact business in Florida.

Freese and Nichols, Inc.
1000 N. Ashley Dr., Suite 100, Tampa, FL 33602
801 Cherry St. Suite 2800 Fort Worth, TX 76102
101 S. Locust St. Suite 202 Denton, TX 76201

ASRus, LLC
13329 North Armenia Ave., Tampa, FL 33613

Applied Drilling Engineering, Inc.
10012 N. Dale Mabry Hwy., Suite 217, Tampa, FL 33618

Hyatt Survey Services, Inc.
2012 Lena Rd., Bradenton, FL 34211

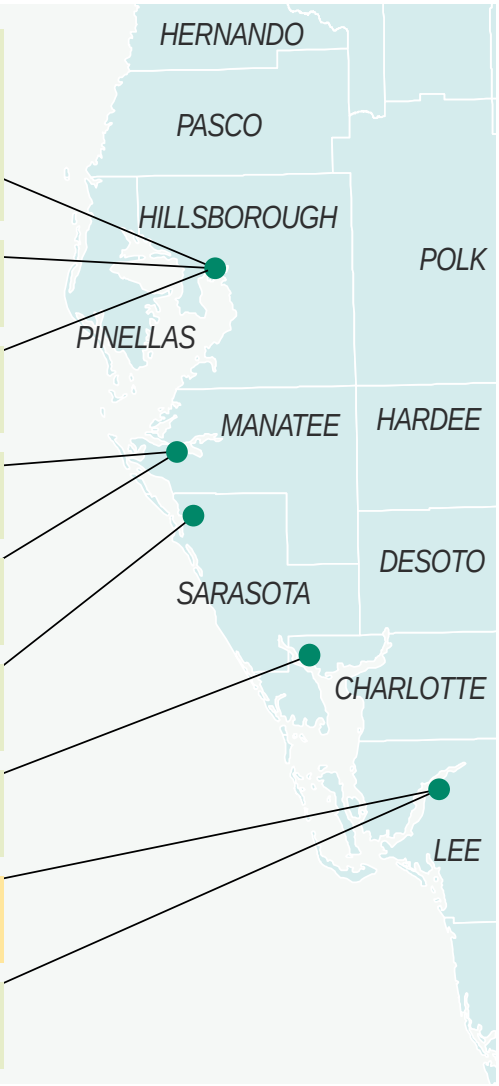
Angie Brewer & Associates, Inc.
9080 58th Dr. East, Suite 200, Bradenton FL 34202

Ardaman & Associates, Inc.
1724 Barber Road, Sarasota, FL 34240

EarthBalance®
2570 Commerce Parkway, North Port, FL 34289

AECOM Technical Services, Inc.
4415 Metro Pkwy, Suite 404, Fort Myers, FL 33916

RESPEC Company, LLC
1605 Hendry St., Fort Myers, FL 33901



0.4 FL Professional Licenses

See below for all applicable licenses for AECOM.



State of Florida
Department of State

I certify from the records of this office that AECOM TECHNICAL SERVICES, INC. is a California corporation authorized to transact business in the State of Florida, qualified on August 21, 1995.

The document number of this corporation is P95000071011.

I further certify that said corporation has paid all fees due this office through December 31, 2023, that its most recent annual report/uniform business report was filed on January 25, 2023, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twenty fifth day of January, 2023

Secretary of State

Tracking Number: 7924 4884 7757

To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/FilingCertificate/CertificateAuthentication

Licensee

Name:	AECOM TECHNICAL SERVICES, INC.	License Number:	8115
Rank:	Registry	License Expiration Date:	
Primary Status:	Current	Original License Date:	01/22/1999

Related License Information

License Number	Status	Related Party	Relationship Type	Relation Effective Date	Rank	Expiration Date
46656	Current, Active	CORNISH, KEVIN MICHAEL	Registry	01/29/2016	Professional Engineer	02/28/2025
41908	Current, Active	GARCIA, CARLOS	Registry		Professional Engineer	02/28/2025
57637	Current, Active	WITMEIER, BENJAMIN JOSEPH	Registry		Professional Engineer	02/28/2025

Licensee

Name:	AECOM TECHNICAL SERVICES INC	License Number:	
Rank:	Geology Business Information	License Expiration Date:	
Primary Status:	Current	Original License Date:	02/15/1999
Secondary Status:	Active		

Related License Information

License Number	Status	Related Party	Relationship Type	Relation Effective Date	Rank	Expiration Date
PG2398	Current, Active	MARSHALL, CHRISTOPHER B	Professional Geologist	08/01/2022	Professional Geologist	07/31/2024

Licensee

Name:	AECOM TECHNICAL SERVICES, INC.	License Number:	
Rank:	Architect Business Information	License Expiration Date:	
Primary Status:	Current	Original License Date:	08/06/2003

Related License Information

License Number	Status	Related Party	Relationship Type	Relation Effective Date	Rank	Expiration Date
AR99442	Current, Active	DINGES, ERIC THOMAS	Responsible Supervisor	08/19/2021	Architect	02/28/2025
AR99442	Current, Active	DINGES, ERIC THOMAS	Qualifying Architect	07/01/2021	Architect	02/28/2025

Licensee

Name:	ULKUS, RICHARD JOHN	License Number:	CGC1523061
Rank:	Certified General Contractor	License Expiration Date:	08/31/2024
Primary Status:	Current	Original License Date:	03/19/2015
Secondary Status:	Active		

Related License Information

License Number	Status	Related Party	Relationship Type	Relation Effective Date	Rank	Expiration Date
	Current, Active	AECOM TECHNICAL SERVICES, INC	Primary Qualifying Agent for Business	01/16/2020	Construction Business Information	

0.5 Disclosure of Representation

AECOM has executed thousands of projects across multiple business lines for clients in Florida, including Charlotte, Manatee and Sarasota counties and the City of North Port. Our business lines include water, transportation, buildings and places, environment and program management. AECOM currently has ongoing contracts through our water and transportation business lines with Manatee and Sarasota Counties.

Angie Brewer & Associates, Inc., has an open authorization for Manatee County as a subconsultant to McKim & Creed for wastewater. They have performed services for Sarasota County in the past, but do not have a relationship with them now nor do they represent any other Authority customers at this time.

Ardaman & Associates, Inc., does not represent Charlotte, DeSoto, Manatee, or Sarasota counties, or the City of North Port (Customers), in any way.

ASRus, LLC, currently has a prime contract with Manatee County to install the Piney Point injection well and has other subcontracts with multiple firms to assist with hydrogeologic work for the County; ASRus has a subcontract with an engineering firm to provide injection well services for Sarasota County; ASRus has held recent subcontracts with an engineering firm to perform hydrogeologic work for Charlotte County; ASRus has done previous hydrogeologic work with the City of North Port under an engineering firm; ASRus has not worked for DeSoto County.

EarthBalance® currently does not represent Charlotte, DeSoto, Manatee, or Sarasota counties, or the City of North Port (Customers), in any way.

Freese and Nichols, Inc., is currently engaged with Manatee County on three projects: Southeast Water Reclamation Facility (WRF) Cloth Media Filter Project; Southwest WRF Cloth Media Filter Project and the Manatee Alum Dewatering Project.

Hyatt Survey Services, Inc., does not represent Charlotte, DeSoto, Manatee, or Sarasota counties, or the City of North Port (Customers), in any way.

RESPEC Company, LLC, is currently a contracted with Sarasota County as part of their “Groundwater Management Services” Library.

Applied Drilling Engineering, Inc., does not represent Charlotte, DeSoto, Manatee, or Sarasota counties, or the City of North Port (Customers), in any way.

0.6 Disclosure of Litigation

AECOM Technical Services Inc., has settled a lawsuit with the City of Sarasota. Details are below:

Claimant Name	City of Sarasota v. AECOM Technical Services, Inc.
Case Number	2013-CA-001728 NC
Date Filed	February 25, 2013
Venue	Circuit Court of the Twelfth Judicial Circuit, Sarasota County, Florida
Status	Settled 2021
Amount	$35,000,000
Claim Description	Complaint for damages in connection with the design and construction of sewage lift station and sewer line

The following subconsultants are not involved in, against any of the Authority Customers, either directly or retained for testimony and expertise on behalf of any other entity in litigation against the Authority or any of its customers.

- Angie Brewer & Associates, Inc
- Ardaman & Associates, Inc.
- ASRus, LLC
- EarthBalance®
- Freese and Nichols, Inc.
- Hyatt Survey Services, Inc.
- RESPEC Company, LLC
- Applied Drilling Engineering, Inc.

AECOM has reviewed the request for statement of qualifications for general professional engineering services as well as the professional services agreement. While we are in substantial agreement with the terms included therein, in the event of award, AECOM respectfully reserves the right to negotiate final contractual provisions, including but not limited to the indemnity provision, in an effort to reach a mutually agreeable contract in line with appropriate industry standards."

AECOM

Section 1

Project Manager & Management





1.1. Meet Our Project Manager – Chris Hill, PE, BCEE, ENV SP



"There is nothing I enjoy more than evaluating, planning, and designing new water treatment facilities. The Brackish Groundwater Feasibility project is a rare opportunity to start with a blank slate and work with the Authority to conceptualize a new supply and innovative approaches to cost-effective implementation. I am proud of this team and am committed to working with the Authority to evaluate (and implement) this opportunity to address the long-term water supply needs of the Authority's member agencies."

Chris brings more than 30 years of experience complex, multi-disciplinary project management and is uniquely qualified to lead this effort. His experience includes water supply development, process evaluation, preliminary and detailed design, cost estimating and construction management of nearly 2.5-bgd of water supply and treatment. He has managed dozens of projects in his nearly three decades of experience ranging in size from tens of thousands of dollars to multi-million dollar efforts with nearly 20 team members. His experience includes design and permitting of water supply wells with the Southwest Florida Water Management District (SWFWMD) and SFWMD and treatment facilities, including DIWs for concentrate disposal with the Florida Department of Environmental Protection (FDEP), including several of the Authority members (Sarasota County and Charlotte County). He is trained in Project Management Institute project management procedures and practices the principles in the Project Management Body of Knowledge.

Firm: AECOM

Assigned Office: Tampa

Total Yrs Exp: 30 Years

Education:
- BS, Chemical Eng.
- BBA, Business Admin.

Licenses: PE: FL #66933
- Board Certified Env. Eng
- Envision Sustainability Professional, Institute for Sustainable Infrastructure

Charlotte County, Burnt Store RO Water Treatment Plant, FL: Project engineer for the detailed design and construction of expansion of this brackish groundwater RO facility from 1.1 to 3.6-mgd.

Sarasota County, Carlton Water Treatment Facility (WTF) Upgrade and Expansion, FL: Project manager responsible for the preliminary and detailed design of the upgrade and expansion of the 12-mgd Carlton WTF to 15-mgd.

Charlotte County, RO Feasibility Study, FL: Project manager for a feasibility study and conceptual design to evaluate alternative groundwater supplies and RO treatment alternatives ranging from 5 to 20-mgd and associated raw and finished water pipelines and pumping stations.

City of Sunrise, Sawgrass RO Water Treatment Plant ASR Project, FL: Project manager for design of ASR system to supply 3-mgd of fresh groundwater to the Sawgrass RO WTP, including booster pump station, pipeline, and ASR and monitoring wellhead design.

Tampa Bay Water, Lithia Hydrogen Sulfide Removal Facility, FL: Engineer of record for design of a 44-mgd side-stream ozone system to control hydrogen sulfide at the Lithia wellfield and water treatment facility.

Coquina Coast Desalination Committee, Coquina Coast Seawater Desalination Project, Palm Coast, FL: Project manager for the planning, preliminary design and permitting of a 25 to 50-mgd seawater desalination facility located on the northeastern coast of Florida. Chris' responsibilities included planning, construction and testing of a beach intake well, pilot-testing, permitting (including Environmental Impact Document/ Environmental Impact Statement preparation) and preliminary design of the intake, discharge, treatment and 100 mile transmission system.

"[Chris] has done a great job successfully managing his team, meeting the [St. Johns River Water Management District's] requirements, and addressing the needs of 14 partner agencies. Because of his efforts, we have met all of the requirements of our cooperative funding agreement and developed a successful conceptual design for our regional alternative water supply project."
Richard Adams, Palm Coast Utilities Director, Client PM for the Coquina Coast Seawater Desalination Project

1.2. Project Management Approach

Meet Our Team

AECOM will serve as the prime consultant for Professional Engineering Services on the Peace River Brackish Groundwater Facility project. As the lead consultant, AECOM will have overall project accountability to the Authority and will be responsible for all aspects of project delivery. To meet the requirements for this project AECOM has assembled an exceptional team of engineers, environmental scientists and designers that will work diligently to provide all design and construction phase services for the project. We have created a team specifically with the Authority in mind. Our local leadership team combined with AECOM's regional and national experts will provide unmatched capability to complete the work under this contract, in a timely manner.

AECOM has teamed with eight highly experienced and specialized firms to assist in the completion of the Authority's contract.

- RESPEC Company, LLC, will provide wellfield design/SWFWMD WUP, groundwater modeling
- ASRus, LLC, will provide DIW/FDEP UIC design and permitting.
- Freese and Nichols, Inc., will provide quality control, hydraulic modeling, water treatment process design, PFOS/PFOA, civil/site, pumping/yard piping and odor control.
- Ardaman & Associates, Inc., will provide geotechnical services.
- EarthBalance, will provide environmental studies to support FDEP ERP.
- Hyatt Survey Services, Inc., will provide survey and subsurface utility engineering (SUE).
- Angie Brewer & Associates, Inc., will provide funding services.
- Applied Drilling Engineering, Inc., will be our Florida-licensed well construction contractor.

Our subconsultant partners will be part of an integrated team, allowing the Authority to have a single point of contact through AECOM. AECOM will be responsible for technical consistency and quality throughout the project on all tasks and deliverables.

Communication

One of the most important factors to complete any project is communication. The key to delivering work that is on schedule and within budget is to communicate to everyone on the project team, and within the organization, on how the project will be executed. By defining the scope of work, sequence of activities, personnel required to perform each activity and activity duration, the project manager can secure the resources within the firm necessary to complete your project on time.

Team collaboration and communication is essential to maintaining the project delivery schedule through completion. Techniques that we will use to assure project schedules and budget will be met are illustrated in the figure below.



Assigning the Right Technical Resources

Ensuring that the right technical resources are available at the right time requires good management. Our Project Manager Chris Hill, will develop a project management plan based on meetings with the Authority's staff and initial site visits with the project team. The purpose of this Plan is to identify personnel assignments, project schedule, milestone dates, interdiscipline and subconsultant coordination, deliverables, assign technical reviewers, and establish methods for client communications.

To manage its resources, each AECOM office regularly updates a workload projection database. The workload projection allows each office, and the company as a whole, to assess current staffing needs and to forecast future needs to meet our client's workload and schedules. By regularly monitoring projected workload, AECOM is able to maintain key project staff through completion of the project.

Team Availability

The Peace River Brackish Groundwater Facility Project will be a priority for the entire AECOM team. Our team members do not have any current projects that would hinder the successful outcome of services to be provided under this contract.

Prior to the selection of specific staff for our team, we examined the existing and projected workload of each person and confirmed their availability for this assignment. We have determined that they have no obligations, either current or projected, that would prevent them from performing with excellence to meet the requirements for this contract.

The AECOM team has the staffing capacity in place and is firmly committed to completing the Peace River Brackish Groundwater Facility Project project on time, within budget, and to the quality standards expected by the Authority.

Ability to Meet Project Schedule

AECOM considers timeliness of service and adherence to schedule as one of the most critical factors in client satisfaction.

We firmly believe that a reputation is built on the successful results of each individual project. Our team's ability to meet the required time line for the Peace River Brackish Groundwater Facility project is best demonstrated by AECOM's commitment to serving the Authority.

Having completed many important projects and task orders for the Authority over the past 30 years, our team is vested in serving the Authority and its members and dedicated to providing quality work that is on time and within budget, and to the Authority's satisfaction.

AECOM considers the Authority to be a key client and is committed to assigning whatever resources are needed to complete assigned task orders on schedule.

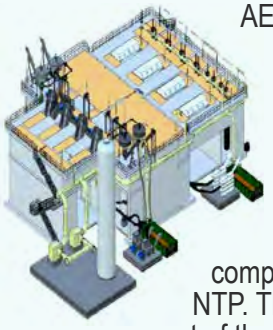
Approach to Management and Project Execution

AECOM's approach is tailored to assure maximum efficiency in completing all project aspects in a timely fashion and to the highest quality standards. It is critical that all our work is closely monitored and that a single source of responsibility is established at the very beginning of the project. Therefore, we have organized all disciplines and functions under the direction of our project manager Chris Hill. He will hold overall responsibility for assuring that our services are completed in accordance with the scope of work.

Chris Hill will be assisted in day-to-day supervision of the technical work by our discipline task leads, which have been chosen based upon their professional experience, in particular their experience on assignments similar in size and scope to the Peace River Brackish Groundwater Facility project.

In interfacing with our subconsultants, their staff members will work directly with the AECOM discipline leads responsible for coordination and review of their work products. Even though our subconsultants may be located in different offices, we have verified common use of equipment and software. Our integrated efforts are expected to be as seamless as being in the same office.

The same philosophy will apply to interfacing with government agencies such as FDEP, SWFWMD, and local permitting agencies. In conjunction with our Project Manager, experts in the respective disciplines, with approval, will contact and coordinate the required project activities to most effectively reach an acceptable conclusion.



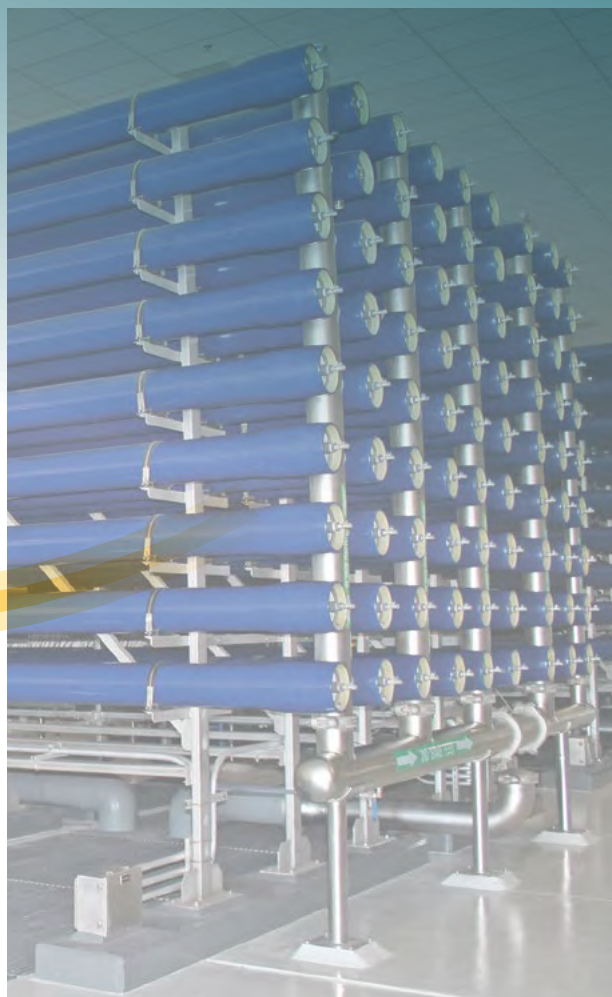
AECOM recently completed the design of the Collier County NCWRF Pretreatment Facility under a very aggressive time schedule. The design on the complex multi-disciplinary project was completed within 6 months of the NTP. The estimated construction cost of the project is $56.4M.

AECOM

Section 2

Consultant Team's Engineering Experience





2.1. Resumes of Key Personnel

AECOM has assembled an exceptional team of professionals who have the expertise and experience to perform the professional services required for your Project. Resumes of our key personnel showcasing the AECOM team's level of experience with the types of services requested in this RFQ start below.

Ronald Cavalieri, PE, BCEE – *Principal-in-Charge*



Ron has a broad range of engineering experience, including public utility master planning, water and wastewater treatment plant facilities design and construction, computer analysis and design of water transmission and distribution systems, wastewater collection and conveyance system modeling and design, and hydraulic analysis and design of potable water and wastewater pumping stations. He is the principal-in-charge on the Authority's active general professional engineering services contract.

Firm: AECOM
Assigned Office: Fort Myers
Total Years Exp: 35+
Education:
- MBA, Business Admin.
- MS/BS, Civil Eng.

Licenses: PE: FL #65850
- Board Certified Env. Eng

Peace River Lakewood Ranch, FL: Principal in Charge on AECOM's existing professional engineering services contract. Currently working on the Plant #1 Clarifier Upgrades.

Collier County, NCWRF Headworks Facility, FL: Principal-in-charge responsible for the planning, design and construction of a new 85-mgd headworks facility.

Collier County, Wastewater Basin Analyses Program (Basin 306), FL: Project director for the Basin 306 Program, which included a comprehensive analysis of 27 County owned duplex wastewater pump stations, three master pump stations and related force main network.

City of Fort Myers, Electrical System Upgrade for Regional Advanced Wastewater Treatment Facilities, FL: Project manager responsible for the planning, permitting, design and construction administration services for electrical system upgrades.



Will Lovins, PhD, PE – *Preliminary Engineering Manager*

Dr. Lovins has 27 years of engineering experience in water quality and treatment serving both municipal and industrial clients. He specializes in conventional and advanced environmental treatment processes. Dr. Lovins is also adept in tailoring membrane systems to site-specific applications for optimal raw water conversion efficiency (recovery), power consumption, energy recovery, chemical consumption and salt rejection, and permeate mineralization with lime systems.

Firm: AECOM
Assigned Office: Orlando
Total Years Exp: 27
Education:
- PhD, Environmental Eng.
- MS/BS, Environmental Eng.

Licenses: PE: FL #58678

Town of Davie, RO WTP and WWTP Design-Build, FL: Technical leader for preliminary RO WTP design and plant commissioning. Scope of services comprised defining water quality and treatment goals, preparing process flow diagrams, process selection, equipment sizing, and site planning.

City of Oldsmar, RO Water Treatment Plant for Alternative Water Supply, FL: Technical lead responsible for development of alternative potable water supply. Scope included pilot testing, preliminary and final design, construction oversight and plant start-up commissioning. Facility comprises a 3-mgd membrane treatment process with new raw water wellfield, RO membrane skids, post-treatment and storage. Commissioning services included operations oversight, system performance review, and troubleshooting assistance.

Hialeah RO WTP, Design and Start-up Services, Hialeah, FL: Technical lead responsible for developing and executing a RO water treatment pilot demonstration, design and system start-up. The system included brackish raw water wells, chemical pretreatment, cartridge filtration, RO desalination, chemical post-treatment, storage and high service pumping. Treatment capacity is 10-mgd, expandable to 17.5-mgd future capacity.

Bill Snow, PE – *Design Manager*



Bill has significant design experience in the field of water treatment, water supply, wastewater treatment, pump stations and utility operations with both private and municipal clients. He specializes in membrane technology and design, including ion exchange, reverse osmosis and membrane softening. Bill also has extensive experience in plant startup and operations.

Firm: AECOM
Assigned Office: W.Palm Bch
Total Years Exp: 48
Education:
- BS, Engineering

Licenses: PE: FL #42757

City of Hialeah, Design-Build, RO WTP Pilot Testing, Design and Start-up Services, FL: Process design manager and engineer of record for a 12.5-mgd RO plant expandable to 20.0-mgd. Scope of services included the design of filtration pretreatment system, chemical pretreatment system and post treatment system using CO2 and Lime mineralization, a degasifier system and biofilter scrubber system, membrane cleaning system, the process building including a membrane room, chemical treatment rooms with bulk chemical storage. The design also included two 5-million-gallon ground storage tanks and a high service pump station.

Town of Davie, RO WTP and WWTP Design-Build, FL: Process start up engineer for the 6.0-mgd RO plant and chemical feed systems including acid, corrosion inhibitor, antiscalant, chlorine disinfection, degasifier system and post treatment system using CO2 and Lime mineralization system.

City of Lake Worth, RO Plant Acid Dilution System, FL: Lead design engineer to replace the full-strength sulfuric acid system with an acid dilution system. The system includes the design of an acid dilution panel for pre and post acid injection to the RO units, booster feed pumps, special piping and a new 20 inch stainless steel static mixer and injection quill. The acid dilution system reduces the strength of the sulfuric acid from 93% to approximately 10% for a safer handling.

James Naylor, PE, BCEE – WTP Process Design



James enjoys building a trusting relationship with public water systems and developing solutions to their treatment and water quality challenges. He leverages his relationships and experience to assist system owners with developing and managing processes and infrastructure to deliver quality water to their customers. His work includes planning, evaluation, design, and construction management for clients and facilities throughout the southeastern U.S.

Firm: Freese and Nichols
Assigned Office: Denton, TX
Total Yrs Exp: 23
Education:
- MS, Environmental Eng.
- BS, Environmental Eng.

Licenses: PE: FL #89991
- Board Certified Env. Eng

North Alamo Water Supply Corporation, Brackish Groundwater Desalination (Study, Funding, Piloting), Edinburg, TX: Senior advisor. FNI provided a feasibility study and funding assistance and is currently providing a piloting effort for cost-effective energy-efficiency improvements for North Alamo Water Supply Corporation's (NAWSC) existing brackish groundwater desalination operations. The pilot considers energy consumption and water quality to determine the application requirements for full-scale implementation of nanofiltration for brackish groundwater desalination in the NAWSC system. This project is supported, in part, by the U.S. Bureau of Reclamation and regional stakeholders.

North Alamo Water Supply Corporation, Energy Efficient Brackish Groundwater Desalination, Edinburg, TX: Staff team. FNI is assisting NAWSC in the site development for a new brackish groundwater well and transmission pipeline and improvements to the Doolittle Brackish Groundwater Desalination Plant. The plant improvements involve the retrofit of existing desalination trains with lower-pressure membrane elements to achieve a lower cost desalination process.

Rich Ulkus, CGC – Construction Manager



Rich has 40 years of experience in the construction of a wide range of water and wastewater treatment projects, with unique experience in RO WTP construction and commissioning. He brings alternative delivery experience having worked on both design-build and construction management at risk (CMAR) projects through-out Florida.

Firm: AECOM

Assigned Office: Coral Gables

Total Yrs Exp: 40

Education:
- AAS, Civil Eng.

Licenses: CGC: FL #1523061

City of Hialeah, Design-Build, RO WTP Pilot Testing, Design and Start-up Services, FL: Project manager and general contractor for the design-build construction of a $62 million,10-mgd RO WTP with a future capacity of 17.5-mgd, which included an the construction of the plant and support facilities; the construction of a 9-well wellfield; 2-5 million gallon finished water storage tank and the installation of two DIWs for concentrate disposal.

Town of Davie, RO WTP and WWTP Design-Build, FL: senior construction manager for the expansion of water and wastewater infrastructure systems. Two plants (water and wastewater) will share a common administration/laboratory building, electrical feed systems and standby generators.

Miami Dade County, Wastewater Improvements Program, Miami,FL: Senior construction manager responsible for management of construction contractors implementing various plant upgrade project as part of Consent Decree Program. Program included wide range of projects from maintenance projects to new construction. Extensive coordination with contractor and plant staff was required.

Paul Moulton, PE – *Process Mechanical Advisor*



Paul has 41 years of experience in civil and sanitary engineering, specializing in the design of water and wastewater treatment plants, pumping stations, force mains, and chemical storage and feed and odor control systems. He is responsible for overseeing the AECOM Design Center of Excellence on design standards, master specifications and design of process mechanical equipment, materials handling systems, and chemical storage and feed systems. Paul has provided the design, start-up, troubleshooting and commissioning for numerous facilities worldwide.

Firm: AECOM

Assigned Office: Pocasset, MA

Total Years Exp: 41

Education:
- BS, Civil Eng.

Licenses: PE: NH #04638

Orange County, Eastern WRF – Phase V, Orlando, FL: Process mechanical advisor for the expansion of EWRF from 18-mgd to 24-mgd, which included a new 64-mgd peak capacity headworks, biological process basin upgrades, aeration blower expansion, RAS/WAS pumping upgrades, clarifier improvements, new disc filters, and chlorine contact expansion. Resolved issues with pumps and pretreatment structure during start up.

Collier County, South County Regional WTP, Collier County, FL: Lead mechanical process design engineer for a 24-mgd RO treatment plant expansion, including DIW, odor control and wellfield expansion.

City of Hollywood, Membrane Softening Plant Expansion, Hollywood, FL: Lead mechanical process engineer for a 36-mgd RO and membrane softening water treatment plant, including degasifiers and wet scrubber type off-gas odor control systems.

SFWMD, As-needed Engineering Services: Lead mechanical process engineer for design of five water pumping stations with a total capacity of 2,500-mgd.

Trooper Smith, PE, DBIA, ENV SP – *Quality Control*



Trooper brings an in-depth working knowledge of treatment plant assessment and evaluation, design and construction management services. He has successfully managed more than $400 million in water/wastewater treatment projects in the last 10 years and have been assisting teams in the technical advisor role for treatment projects totaling over $1 billion in the last 2 decades.

Firm: Freese and Nichols
Assigned Office: Tampa
Total Years Exp: 23
Education:
- MS/BS, Environmental Eng.

Licenses: PE: FL #83436
- DB Prof., DBIA, #1149045
- Envision Sustainability Prof.

Manatee County, Lake Manatee Water Treatment Plant Alum Sludge Dewatering System, FL: Technical advisor for the design-build of a new alum residuals (sludge) thickening and dewatering system.

Colorado River Municipal Water District, Raw Water Production Facility, CO: Quality Control. Conducted a membrane pilot study and provided final design and construction phase assistance for the *U.S. first direct potable reuse project,* which purified 1.78-mgd of reclaimed wastewater to blend into the District's raw water transmission pipeline.

N. Texas Municipal Water District, Lake Texoma-to-Wylie WTP Water Transmission System and Plant Connection, TX: Technical advisor/ quality control responsible for providing fast-track design services for the connection between the Lake Texoma Outfall and the Wylie Water Treatment Plant to combat invasive zebra mussels, including 240-mg earthen balancing reservoir, 48 miles of 84-inch and 96-inch diameter steel pipe, and blending facilities to connect to the four existing water plants.

2.2 Project Examples

This table illustrates our team's experience and success on projects similar in scope and size to the Peace River Brackish Groundwater Facility project.

	Desalination	Potable Water	Water Res. / Hydrogeol	**Wellfield Development**	Deep Injection Well	Hydraulic Modeling	Water Storage Facilities	Chemical Feed/Storage	SCADA and I&C	Electrical/Power	Odor Control	Conveyance	Pump Stations	Civil/Site	A/E Design	Environmental	Permitting	Funding	Const Mgmt / CEI Srvcs
AECOM PROJECTS																			
TECO RO WTP	●	●						●	●	●			●	●	●		●		●
Peace River WTP Exp. Program		●	●			●		●	●	●			●		●		●		●
Davie RO WTP / WRF ★	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●
Oldsmar RO WTP ★	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●
MDWASD Hialeah WTP		●	●	●	●	●	●	●	●	●		●	●	●	●		●		●
MDWASD Preston WTP							●										●		
Hialeah RO WTP ★	●						●	●	●	●	●		●	●			●		●
Marco Island RO WTP	●	●						●			●				●		●		●
Pinellas County RO WTP	●							●		●				●	●		●		
Palm Beach Couny WTP 3		●	●		●		●		●		●								
Oviedo WTP	●	●					●		●		●			●	●	●	●		●
Sarasota RO WTP	●	●							●	●					●		●		
Collier County North WTP	●	●		●	●		●	●	●	●	●			●	●		●		
Fort Myers WTP	●	●	●		●			●	●	●	●			●	●		●		●
FREESE AND NICHOLS PROJECTS																			
CRMWD Raw Water Production	●	●				●	●	●	●	●	●	●	●	●	●	●	●	●	●
N. Alamo Brackish Desal	●	●	●	●		●	●	●	●	●						●	●	●	
New Braunfels, Trinity Well Trmt.		●	●	●		●	●	●	●	●		●	●	●	●	●	●		●

★ Project description provided starting on the following page.

Town of Davie New Water Treatment and WRF Progressive Design-Build, Davie, FL







Firm
AECOM

Client
Town of Davie

Client Contact
Renuka Mohammed
Utilities Director
T: (954) 327-3768
Renuka_mohammed@
davie-fl.gov

Completion Dates
2014

Budget
$112M

Key Team Members, Roles
Will Lovins, *Technical Leader*
Bill Snow, *Process Start-up Eng*
Rich Ulkus, *Construction Mgr.*
Mike Bennett, *Hydrogeology*

KEY BENEFITS

- ☑ On-site tilt-up construction methods were employed for all exterior walls which shortened the construction schedule
- ☑ Early selection of equipment and vendors ensured that all facilities could be housed on the tight site
- ☑ Three industry awards including DBIA Florida *Project of the Year*



RELEVANCE TO THE AUTHORITY

AECOM provided the following services throughout the project:

- Well driller subcontracting
- Groundwater modeling
- Wellfield design, permitting and construction
- Preliminary and final design
- New main switchgear and MCCs
- Civil, structural, architectural, building mechanical design
- New standby power generators
- CEI services
- Electrical engineering
- Regulatory permitting
- Membrane treatment facilities
- SCADA / I&C engineering
- Odor control
- Chemical feed systems
- DIW design and permitting

Program Description

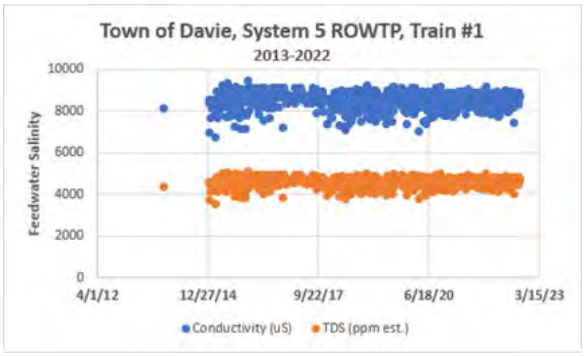
Expecting significant growth from two redevelopment projects, plus future development, Davie needed to plan for increased demand on its water and wastewater systems in the most environmentally friendly manner possible. With a vision of "Making Davie Clean Through Green," the town contracted AECOM to provide a new facility designed to scale with anticipated growth and demand, while preserving natural resources. The project is a 6-mgd (12-mgd future) brackish water reverse osmosis water treatment plant and a 3.5-mgd (6-mgd future) wastewater treatment plant, using an MBR process, to produce high quality effluent for reclaim water usage. This plant is among the first in Broward County that doesn't discharge treated effluents into the Atlantic Ocean.

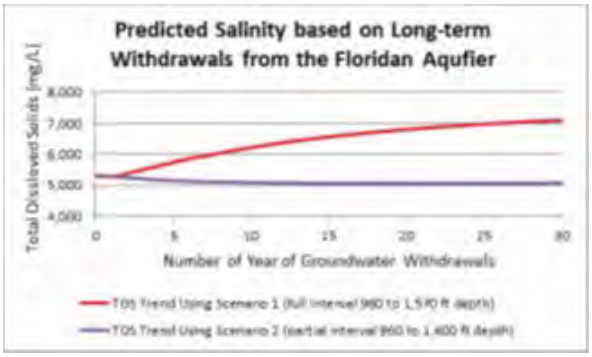
AECOM's scope included developing an alternative water supply from planning through permitting and construction, as well as assisting the town in both selecting and acquiring property for the main facilities and remote sites for raw water wells. AECOM prepared individual design reports for the raw water supply wells, the water treatment facility, the water reclamation facility, the UIC deep injection wells, and the water reclamation distribution network. Working closely with the town, AECOM identified and negotiated reclaimed water use agreements with large users in the vicinity of the plant, as well as completing all permitting, including the CUP, site plan permits, water treatment and water reclamation facility construction/ operation permits, and UIC.



Development of a sustainable brackish water supply was a critical element to the success of the project. AECOM completed the design, permitting, constructing and resident services overseeing construction, testing and operation by a licensed well driller for an exploratory production well for onsite geology and hydrogeology characterization that involved:

- Evaluating well completion depths for balancing well production and control of long-term salinity degradation.
- Use of a calibrated density-dependent groundwater flow model, developed for the South Florida Water Management District, with two variable density and solute transport components over a 30 year simulation period.
- Developing the wells with two different well completion depths to meet the design withdrawal rate of 2.67-mgd per well maintain feed water TDS within the design range of 5,000 to 8,000 mg/L





The design and operation has proven successful with no salinity degradation **through 10 years of wellfield operation.**

Equally critical to the success of the project was a disposal system for membrane concentrate and excess reclaimed effluent. AECOM designed, permitted and oversaw the construction of this Class I Industrial Injection Well System comprising two alternate design Class I injection wells with 11.4-mgd – the largest in Florida at the time. A dual-zone monitoring well was implemented for detection of inject fluid upward migration and early warning for developing operational mitigation measures.

> ***"The future of water conservation is in reuse... The innovations built into our new facility will position the Town of Davie as an industry leader in water conservation and water reclamation. The result will be a more eco-friendly, efficient use of the Town's water resources."***
>
> Susan Starkeye, Town Council Member, Town of Davie

Hialeah RO WTP Design and Start-up Services
Hialeah, FL







Firm
AECOM

Client
City of Hialeah

Client Contact
Armando Vidal
Utility Director
T: (305) 883-5800
avidal@hialeahfl.gov

Completion Dates
2017

Budget
$55.5M (construction)

Key Team Members, Roles
Rich Ulkus, *Construction Mgr*
Bill Snow, *Engineer-of-Record*
Will Lovins, *Testing/Design Mgr*

☑ KEY BENEFITS

- ☑ Robust desalination process design for future raw water salinity degradation
- ☑ Use of design-build allowed for innovative solutions
- ☑ Focused on reliability and weather hardening
- ☑ Leveraged design-build flexibility to use multiple GMPs to get construction started during design
- ☑ City's sustainability goals were met

RELEVANCE TO THE AUTHORITY

AECOM provided the following services throughout the project:

- Desalination
- Water storage facilities
- Chemical feed / storage
- SCADA and I&C
- Electrical / power
- Odor control
- Pump stations
- Civil / site / structural, architectural, and building mechanical design
- Permitting
- Construction mgmt/ CEI

Program Description

AECOM designed an innovative, energy-efficient treatment plant following particularly intensive testing, planning and design to develop a desalination treatment facility for a wide range of current and future raw water salinity. Our evaluations led to a brackish water treatment system that achieved optimal balance between life cycle cost and finished water quality.

Scope of Work

Highlights of AECOM's design include membrane skids that readily accommodate modifications for increased salinity degradation of the Upper Floridan Aquifer supply, low pressure membranes for minimal power use, and biofilters rather than chemically intensive scrubbers. To increase reliability, the plant made use of robust materials typical of more demanding seawater RO facilities. AECOM's architects designed the facility with a modern tropical theme in keeping with the relaxed, contemporary feel of the city. Sustainability was a key city concern, so AECOM's design for the main treatment building was set for LEED Silver certification.

AECOM's contract also included the detailed (final) design and construction at risk of the project. The scope of services included design of the pretreatment system, chemical pre- and post-treatment systems, degasifier system and biofilter scrubber system, membrane cleaning system, process building including a membrane room, and chemical treatment rooms with bulk chemical storage.

Key Attributes of the Project

In addition to meeting strict finished water quality criteria, AECOM delivered a plant that met all sustainability, operability, constructability, and reliability objectives through process selection, construction methods, redundancy, and site and building layout.

Oldsmar Brackish Water Supply and Treatment Facilities Planning and Construction, Oldsmar, FL







Firm
AECOM

Client
City of Oldsmar

Client Contact
Johna Jahn, PE
Utilities Administrator
T: (813) 749-1233
JJahn@ci.oldsmar.fl.us

Completion Dates
2013

Budget
$17M

Key Team Members, Roles
Will Lovins, *Technical Lead*

☑ KEY BENEFITS

- ☑ Provided the city with a reliable and cost effective source of potable water supply
- ☑ Freed up water supplies that can be used to meet other regional water demands
- ☑ Supported the City's sustainability goals with a LEED certified water treatment facility
- ☑ Allowed the City to return to free chlorine as the residual disinfectant through the distribution system

RELEVANCE TO THE AUTHORITY

AECOM provided full services throughout the project including:

- Wellfield siting analysis
- Test well construction and operation
- Dual zone wellfield
- Pilot testing
- Feasibility study
- Preliminary and final design
- Process design
- Regulatory Permitting
- Construction Management
- Start up
- Operations support
- Membrane treatment facilities
- SCADA / I&C engineering
- Odor control
- Chemical feed systems
- DIW design and permitting
- Civil, structural, architectural, building mechanical design
- Electrical engineering

Program Description

For decades, the City of Oldsmar (City) purchased potable water as a wholesale customer of Pinellas County. This regional water supply system serving the Tampa Bay area was projected to grow dramatically by diversifying sources and adding significant new facilities, resulting in increased prices to the City's customers. Desiring to have more control over the quality and cost, the City pursued development of their own potable water supply. The City laid out a phased approach that would begin with evaluating the feasibility of such an endeavor and conclude with the construction and start-up of the new facilities. AECOM was hired by the City in 1996 to assist them with this ambitious program and has been working with them since as they carefully and diligently continue to move forward.

Scope of Work

Phase I included a preliminary feasibility study which reviewed demand, water supply options, and regulations; evaluated water quality, treatment, and potential costs; assessed project feasibility and developed an implementation plan. Existing data and site specific raw water quantity and quality data collected from a test well, supported the cost effectiveness of a 2-mgd annual average brackish water wellfield with a low pressure RO water treatment plant. The Phase I study concluded that the project was technically and economically feasible.



Phase II included a wellfield siting analysis, development a field testing program, design and construction of two pilot production wells (and four monitoring wells) to evaluate the capacity and quality of two water supply aquifers, a pilot treatment study using the wells to evaluate treatability and concentrate characteristics, and preliminary engineering of the wellfield, transmission pipelines, treatment, and concentrate disposal. Subsequent analysis and successful water use and concentrate disposal permitting confirmed that the project remained feasible.

Phase III included the preliminary and final design of 12 brackish water wells; 10,500 ft of 8 – 24 inch raw water transmission main; a 3.2-mgd maximum day RO water treatment plant; 8,250 ft of 8-inch concentrate disposal pipeline; and a 1.2-mgd DIW. The project was designed/constructed using four separate construction contracts:

1. Production wells,
2. RO process equipment,
3. WTP building, site, pipelines, and other equipment, and
4. the DIW.

Phase IV was the construction of the new facilities. Working closely with the city, construction was completed in December 2012 resulting in the following key benefits:

- Providing the city with a reliable and cost effective source of potable water supply
- Freeing up water supplies that can be used to meet other regional water demands
- Supporting the City's sustainability goals with a LEED certified water treatment facility
- Allowing the City to return to free chlorine as the residual disinfectant through the distribution system

Performance

AECOM provided full services throughout the project including studies; preliminary and final design; FDEP, ACOE, SWFWMD, and building permitting; SRF and SWFWMD funding support; and bidding and construction phase services for multiple interrelated contracts.

On a reference evaluation we received 10s (representing very satisfied and would hire the firm again on all 10 of the criteria asked.)

Solicitation: 17-7117 SCRWTP Reactor Tank Number Four

Reference Questionnaire for:
AECOM
(Name of Company Requesting Reference Information)
Tim Curran
(Name of Individuals Requesting Reference Information):

Name: **Johna Jahn, PE, Utilities Administrator** Company: **City of Oldsmar**
(Evaluator completing reference questionnaire) (Evaluator's Company completing reference)
Email: **JJahn@ci.oldsmar.fl.us** FAX: N/A Telephone: **(813) 749-1233**

Collier County is implementing a process that collects reference information on firms and their key personnel to be used in the selection of firms to perform this project. The Name of the Company listed in the Subject above has listed you as a client for which they have previously performed work. Please complete the survey. Please rate each criteria to the best of your knowledge on a scale of 1 to 10, with 10 representing that you were very satisifed (and would hire the firm/individual again) and 1 representing that you were very unsatisfied (and would never hire the firm/indivdiual again). If you do not have sufficient knowledge of past performance in a particular area, leave it blank and the item or form will be scored "0." (Please note, references from Collier County staff will not be accepted.)

Project Description: Study, testing, design, permitting and construction of a new water supply system consisting of 12 brackish production wells, 3.2 mgd RO WTP, about 20,000 feet of 8 to 24 inch raw water and concentrate pipelines, and a 1.2 mgd deep injection well.

Completion Date: December 2012
Project Budget: $17 million (all constr contracts)
Project Number of Days: 15 *years* from the beginning

Item	Citeria	Score
1	Ability to manage the project costs (minimize change orders to scope).	10
2	Ability to maintain project schedule (complete on-time or early).	10
3	Quality of work.	10
4	Quality of consultative advice provided on the project.	10
5	Professionalism and ability to manage personnel.	10
6	Project administration (completed documents, final invoice, final product turnover; invoices; manuals or going forward documentation, etc.)	10
7	Ability to verbally communicate and document information clearly and succinctly.	10
8	Abiltity to manage risks and unexpected project circumstances.	10
9	Ability to follow contract documents, policies, procedures, rules, regulations, etc.	10
10	Overall comfort level with hiring the company in the future (customer satisfaction).	10
	TOTAL SCORE OF ALL ITEMS	100

AECOM

Section 3

Consultant Team's Hydrogeologic Experience





3.1. Hydrogeologic Resumes of Key Personnel

AECOM's hydrogeology team has extensive experience in water supply wells, DIWs, water use permitting and groundwater modeling. We have designed, permitted and provided construction services for both water supply wells and DIWs. AECOM has developed alternative water supply wells for multiple communities providing sustainable long term water supply options.

Our team of hydrogeologists includes Mike Bennett, PG, David Brown, PG, and Joseph Haber, PG, and Mark McNeal, PG. Together they have a combined total experience of more than 100 years. In addition, our team members have worked extensively with the Authority over the past 15 years. David Brown and Joseph Haber assisted the Authority in permitting the 9.0-mgd brackish water wellfield consisting of an additional 10 production wells, which will be the source of water for this project. Mark McNeal has significant experience working with the Authority on your ASR system and in all aspects of DIW systems.

Hydrogeoloic resumes of our key personnel start on the following page.

3.2 Hydrogeologic Project Examples

Hydrogeologic project examples are provided starting on page 21. The project matrix below provides a comprehensive list of our teams' completed projects.

Team Project Experience

	Desalination	Potable Water Treatment	Pump Stations	Conveyance	Hydraulic Modeling	Water Storage Facilities	Water Resources/Hydrogeology	**Wellfield Development**	Deep Injection Well	Chemical Feed Systems/Storage	SCADA and I&C	Electrical/Power Distribution	Odor Control	Civil/Site	A/E Design	Environmental	Permitting	Funding	Construction Mgmt / CEI Srvcs
AECOM PROJECTS																			
Davie Floridan Wellfield	●	●		●	●	●	●	●			●	●		●			●		●
Davie Class I DIW System				●		●	●		●		●						●		●
FL Keys Aqueduct DIW★				●			●		●		●						●		●
Fort Pierce Utility Authority								●				●		●			●		●
MDWASD Miami Springs Wellfield				●			●	●			●	●					●		
Stuart Surficial Aquifer Wellfield							●	●									●		
Charlotte Co Burnt Store Wellfield Rehab							●	●											●
Martin County, Tropical Farms Class I Inj.				●			●		●		●	●		●	●		●		●
Cooper City, Class I Injection Well Rehab				●					●		●						●		●
Miramar Class I Injection Well Rehab									●								●		●
Houston Frito Lay						●	●	●			●	●		●			●		●
ASRUS PROJECTS																			
Manatee County DIW Expansion★							●		●								●		●
RESPEC PROJECTS																			
Peace River Brackish Wellfield Water Use Permitting★					●		●	●									●		
Peace River General Hydrologic/ Hydrogeologic Services★					●		●	●									●	●	●

★Project description provided starting on the following page.



Michael Bennett, PG – *Hydrogeology Advisor*

Michael has extensive experience in hydrogeology, ground water modeling, geochemistry, and geophysics. He offers expertise in hydrogeologic and geochemical characterization of ground water systems, groundwater flow modeling, borehole and surface geophysics investigations and the permitting and design of Class I, II and V Water Injection Well systems.

Firm: AECOM
Assigned Office: W. Palm Bch
Total Years Exp: 36
Education:
- MS, Hydrogeology
- BS, Geology

Licenses: PG: FL #1558

Town of Davie, DIWs, Class I Injection Well Permitting, Design and Construction Oversight, FL: Project manager responsible for the design and permitting of a Class I DIW system for the disposal of secondary treated effluent and RO concentrate from the Town water/ wastewater facility.

Florida City, FKAA Class I DIWs Permitting Design and Construction Oversight, FL: Project manager responsible for completing and submitting an application for variance to locate a DIW system with 500 ft of an active well field. Completed the technical specifications, contract documents and well construction plans to accommodate a change in location of the DIW system.

Miami Dade Water & Sewer Dept., Miami Springs Wellfield Assessment and Rehabilitation (PHI&II), FL: Wellfield technical lead. Develop a condition assessment report. Report addressed the raw water production wells and associated mechanical, electrical, and structural components and functional integrity with the intent to provide a strategic evaluation and recommendations based on visual observed condition to extend the useful life of the facilities.

Town of Davie, Floridan Aquifer Well Field, FL: Project manager responsible for the design and permitting of a 20-mgd Floridan aquifer well field with the SFWMD.

Mark McNeal, PG – Deep Injection Well



Mark has 38 years of experience in hydrogeologic investigations in Florida, including project management of ASR, DIW, reuse, and water supply projects; design and permitting, well construction inspection; data analysis; geophysical logging and interpretation; aquifer pumping test design and analysis; system startup; well rehabilitation activities, mechanical integrity testing, and operational cycle testing. He is well known with FDEP and EPA Region IV for unique approaches and strategies in UIC permitting.

Firm: ASRus
Assigned Office:
Total Yrs Exp: 38
Education:
- BS, Geological Eng.

Licenses: PG: FL #1231

FGUA Lehigh Acres, Lee County, FL: Provided permitting oversight and MIT services at the FGUA Lehigh Acres Class I municipal and Class I Industrial injection wells. The Class I injection wells utilize the highly transmissive "boulder zone" of the Lower Floridan Aquifer (LFA). He has provided similar services for FGUA's Del Prado WWTP and Golden Gate WWTP.

City of Palm Bay, City's Troutman and SRWTP Injection Wells, Brevard County, FL: Provided permitting, rehabilitation, re-rating, and MIT services at the City's Troutman and SRWTP injection wells. The Class I injection wells utilize the highly transmissive "boulder zone" of the LFA.

Other Class I Injection Well Projects: Lee County North (concentrate); FP&L, Turkey Point (Homestead); Gulf Power Company, Plant Crist (Pensacola) and Plant Smith (Panama City); N. Lee County IW-2, Englewood Water District, Peace River Manasota Regional Water Supply Authority, (Arcadia), City of Oldsmar, City of Rockledge, City of Lake Worth, City of Sarasota, Solid Waste Authority (Palm Beach Co.); PRWC SEWF and WPF (Concentrate Disposal); Columbia County (domestic and industrial wastewater); TOHO Water Authority Cypress Lake (Industrial); JEA Nassau County Class I Exploratory Well.



David Brown, PG – Wellfield Design/SWFWMD WUP

David has a broad professional background in geology, groundwater hydrology, and permitting. He has managed the technical aspects of water resource development and sustainability projects throughout the southeastern US, particularly in Florida. David has public and private professional experience, enabling him to provide a straightforward and integrated approach to resource development and protection.

Firm: RESPEC
Assigned Office: Sarasota, FL
Total Yrs Exp: 40
Education:
- BS, Geology
- Graduate Level Stratigraphic Analysis
- Groundwater & Aquifer Analysis
- Graduate Level Eng. & Groundwater Hydrology

Licenses: PG: FL #566

Water Resource Development: Managed the installation and performance testing of municipal drinking water, irrigation, and remedial recovery well systems, including statistical analysis of well yield, water quality, and efficiency. Designed and developed alternative water supply and recovery sources to offset and augment existing supplies. Played a critical role in the overview and assessment of Hydrobiological Monitoring Plans for several large public water supply projects.

Water Quality: Co-authored and provided technical expertise for the Shell Creek and Prairie Creek Watersheds Management Plan to provide reasonable assurance for TMDLs. FDEP considers this effort a template for TMDL reasonable assurance plans throughout the state. He also created the SWFWMD's Irrigation Well Back-Plugging Program to remediate poor water quality wells in the Southern Water Use Caution Area.

Facilitating Agricultural Resource Management Systems (FARMS): Managed the program and staff, including developing operating agreements with other state agencies, obtaining over $3.5 million in state appropriations and matching funds, designing program contracts, and authoring programmatic technical guidelines.



Joseph Haber, PG – Groundwater Modeling

Joseph (Joe) has more than 23 years of practical experience in Florida and is experienced in well and wellfield design, including complex brackish groundwater environments, water quality analysis, brackish wellfield management, aquifer performance testing, and geophysical logging.

Firm: RESPEC
Assigned Office: Tampa, FL
Total Yrs Exp: 23
Education:
- MS, Hydrogeology
- BS, Environmental Science and Policy

Licenses: PG: FL #2631

Peace River Manasota Regional Water Supply Authority, Brackish **Wellfield Water Use Permitting, FL:** Joe was the regulatory and technical lead during the modification of the Authority's WUP to add a 9.0-mgd brackish wellfield to the its supply sources. His modeling analyses confirmed the County's actions, resulting in a considerable reduction in currently authorized impacts and a substantial recovery of UFA potentiometric surface levels within the MIA of the Southern Water Use Caution Area.

Peace River Manasota Regional Water Supply Authority, Peace **River Facility 50-Year Water Use Permit Renewal and Modification,** FL: Joe provided technical assistance and WUP application development support to successfully modify and renew the Authority's WUP for an unprecedented permit duration of 50 years. The permit application resulted in one of the largest authorized withdrawals and longest permit durations ever issued in Florida.

Peace River Manasota Regional Water Supply Authority, Water Supply Feasibility Study, FL: Joe created a comprehensive assessment of hydrogeologic data and more; upon Joe's analysis it was decided that development of integrated and regionally connected surface and groundwater facilities has significant potential to provide sustainable and reliable supplies for the four-County region.

Florida Keys Aqueduct Authority Class I Industrial Deep Injection Well System, Florida City, FL





Firm
AECOM

Client
Florida Keys Aqueduct Authority

Client Contact
Tom G. Walker, PE
Director of Engineering
(305) 295-2140

Completion Dates
September 2010

Budget
$6.7M

Key Team Members, Roles
Mike Bennett, *Permitting / Project Manager*

KEY BENEFITS

- ☑ AECOM also successfully negotiated the construction price of the DIW system from a bid price of $6.984 million to $6.148 million
- ☑ AECOM negotiated with the FDEP reducing the drilling and testing requirements of this injection well system with a savings of $180,000.
- ☑ This Class I injection well system was completed without a single hour of contractor stand-by time, completed on schedule and with an $180,000 credit to the owner due to a reduction in testing requirements.

RELEVANCE TO THE AUTHORITY

AECOM provided the following services throughout the project:

- Conveyance
- Water Resources / Hydrogeology
- Deep Injection Well
- SCADA / I&C
- Electrical / power distribution
- Funding
- Construction Mgmt / CEI

Program Description

As part of the development of the new RO water treatment facility at Florida City a deep injection well system was needed to dispose of concentrate generated by the processing of brackish ground water via the reverse osmosis method.

AECOM designed, permitted and managed the construction of this Class I Industrial Injection Well System. The system consists of single alternate design Class I injection well having an injection capacity of 5.4-mgd.

This system was designed (material selection and diameter of the injection tubing) to serve as the primary disposal method for reverse osmosis concentrate. Due to the aggressive nature of reverse osmosis concentrate, the injection well was completed with 13 5/8-inch diameter Fiberglass Reinforced Pipe (FRP) injection tubing which was fully cemented to surface. The alternate design approach allowed use of material to increase the longevity and reduce life cycle costs of the injection well, improved the external mechanical integrity of the injection well and eliminated the need for an annular pressure/monitor system. The surface facilities consist of stainless steel conveyance piping, instrumentation and controls and a surge protection system to minimize corrosion.

The dual-zone monitor well completion is also unique whereby the lower monitor zone is completed in a permeable rock interval approximately 200 ft below the base of the USDW and 1,000 ft above the injection horizon. The placement of this monitor interval allows for sufficient thickness of confinement between the monitor zone and the injection zone but also serves a sentinel to detect the upward migration of inject fluid well in advance of affect water above the USDW. This design allows for sufficient time to develop an operational strategy to mitigate this occurrence, if it should occur.

Deep Injection Well Expansion, Manatee County, FL



Firm
ASRus, LLC

Client
Manatee County

Client Contact
Kevin Morris, PE
Deputy Director of Utilities
T: (941) 792-8811 ext. 5244

Completion Date
2018

Budget
$11M

Key Team Members, Roles
Mark McNeal, *Principal-in-charge*

RELEVANCE TO THE AUTHORITY

ASRus provided the following services throughout the project:

- Water Resources/ Hydrogeology
- Deep Injection Well
- Permitting
- Construction Mgmt / CEI Services

Program Description

ASRus, LLC provided hydrogeologic services to increase the reuse disposal capacity and pumping capacity at the County's North Regional WRF. ASRus provided design, permitting, construction, and start-up services for two DIWs at this facility. Injection well IW-1 is a Class V injection well into the LFA designed to dispose of excess reclaimed water that has undergone high level disinfection. IW-1 has a capacity of approximately 3-mgd. Injection Well IW-1 is a deeper Class I industrial well completed into the LFA with a capacity of approximately 1-mgd that is designed to accept HLD treated reclaimed water or future concentrate from a proposed RO facility.

ASRus, LLC continues to serve as the County's primary UIC hydrogeologic consultant for their DIW system including permitting, Mechanical Integrity Testing, well rehabilitation, annual reports, and assistance with the County's Reclaimed ASR Program. The County has a Class I municipal injection well at Cortez Road, A Class V recharge well that can dispose of up to 18-mgd at its Southwest WRF, and a reclaimed water ASR that is undergoing cycle testing at this time.

Most project under the County's UIC program are managed by Pete Larkin, PG, with Mark McNeal, PG, providing oversight of the projects and serving as principal-in-charge. Because of the high quality of service consistently provided by ASRus to the County, ASRus was also awarded a prime contract to provide Class I industrial injection well services to the County for the design, permitting, construction, and start-up of the County's highly publicized Piney Point injection well system in Northeast Manatee County.

Regional Water Supply Authority Brackish Wellfield Water Use Permitting, Sarasota, Charlotte, Manatee, DeSoto Counties, FL



Firm
RESPEC

Client
Peace River Manasota Regional Water Supply Authority

Client Contact
James P. Guida, PG
T: (941) 706-5042
jguida@regionalwater.org

Completion Date
2022

Budget
$60K

Key Team Members, Roles
Joseph Haber, *PG, Project Manager*

☑ KEY BENEFITS

☑ Additional groundwater source
☑ Increased reliability

RELEVANCE TO THE AUTHORITY

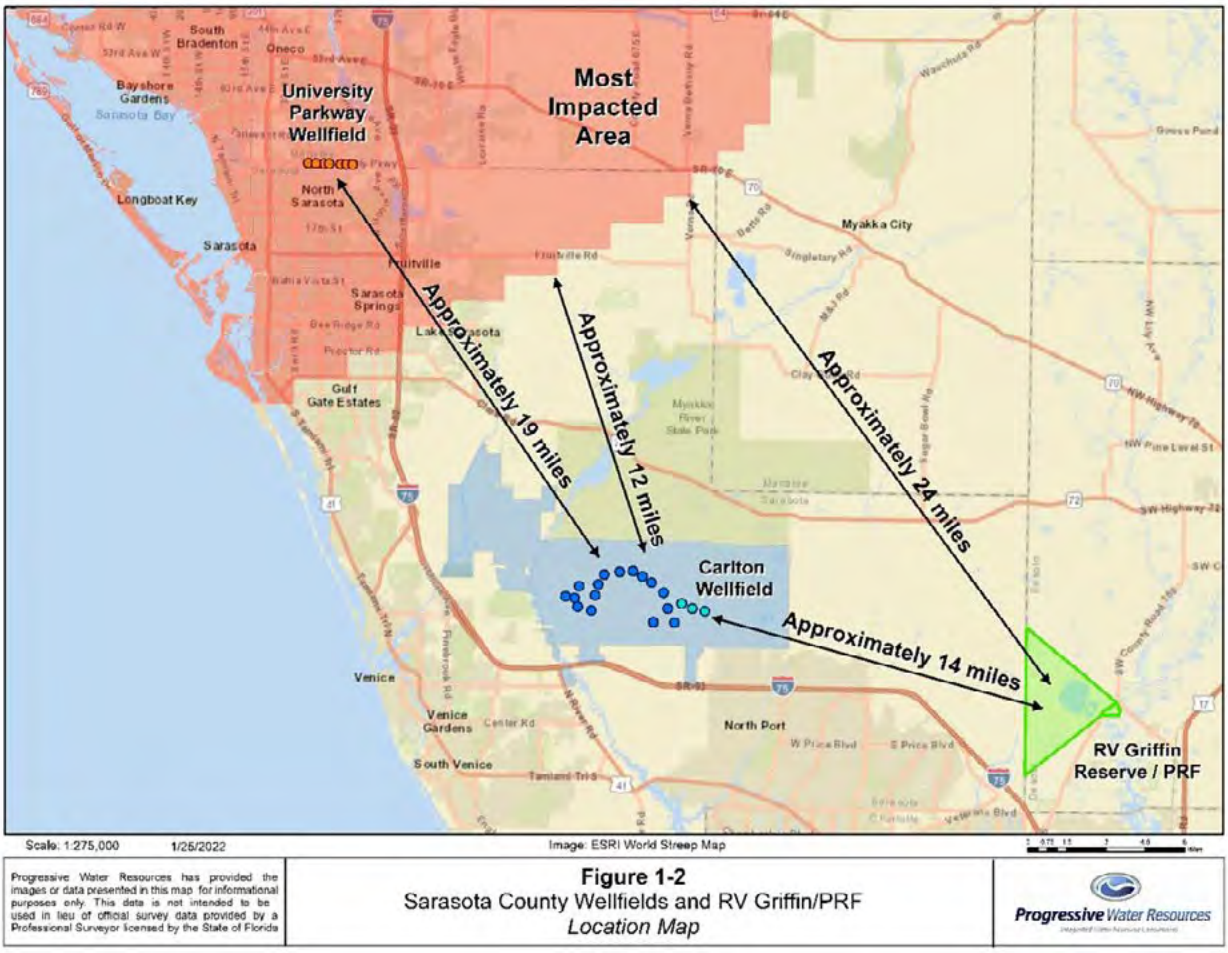
RESPEC provided the following services to the Authority:

- Hydraulic Modeling
- Water Resources/ Hydrogeology
- Wellfield Development
- Permitting

Program Description

The Authority is a regional water supplier in southwest Florida that provides wholesale drinking water supporting the region's economic growth and quality of life. The Authority provides the platform for its four member counties to collaboratively plan the region's water supply benefiting from an economy of scale, shared expertise, and environmental stewardship. Since 1991, the Authority has provided drinking water to more than 900,000 people across Charlotte, DeSoto, Manatee, and Sarasota counties. Every day, the Authority supplies an average of 29-mgd to its members. The Authority's facilities include two off-stream reservoirs with a total combined capacity of 6.5 billion gallons; two ASR wellfields with a total combined 6.4 billion gallons in capacity and a potable water treatment plant.

In 2022, Sarasota County proposed a modification of their Consolidated WUP to self-relocate 2.0-mgd of existing UFA groundwater quantities located at its University Parkway wellfield to its T. Mabry Carlton Reserve wellfield. The County's University Parkway wellfield is located within the SWFWMD's Most Impacted Area (MIA) which is associated with the Salt-Water Intrusion Minimum Aquifer Level (SWIMAL). In contrast, the Carlton Reserve Wellfield is located 12 miles to the southwest of the MIA. RESPEC (formerly Progressive Water Resources) performed a series of groundwater flow modeling analyses that confirmed that the County's actions would not only not cause "new impacts" to the SWIMAL but result in a considerable reduction in currently authorized impacts and a substantial recovery of potentiometric surface levels within the MIA of the Southern Water Use Caution Area (SWUCA). This created a unique and time-limited opportunity for the Authority to apply for a modification to the PRF WUP to add a long-planned-for brackish groundwater wellfield. The Authority discussed this opportunity with the County, and both agreed that the County's proposal and the Authority's opportunity would be advantageous for the region.



With RESPEC's assistance, the Authority submitted a modification of WUP 20010420.011 to the District on April 1, 2022, that included a request for authorization to add a brackish water wellfield consisting of 10 proposed production wells to the Authority's permit. The permit was issued by the District on October 18, 2022, which authorized a 9.0-mgd brackish wellfield at the RV Griffin Reserve.

RESPEC provided the following services for this successful project:

1. Wellfield and Production Well Design,
2. Development of the WUP application and Supporting Information Narrative,
3. Groundwater Flow Modeling,
4. Impact Analysis to determine potential impacts to environmental feature, legal existing users and Minimum Flows and Levels,
5. Development of a proposed Wellfield Management Plan and
6. SWFWMD negotiations and coordination.

General Hydrologic/Hydrogeologic Services, Sarasota, Charlotte, Manatee, and DeSoto Counties, FL



Firm
RESPEC

Client
Peace River Manasota Regional Water Supply Authority

Client Contact
James P. Guida, PG
T: (941) 706-5042
jguida@regionalwater.org

Completion Date
Ongoing

Budget
$Ongoing

Key Team Members, Roles
Joseph Haber, *PG, Project Manager*

☑ KEY BENEFITS

☑ Resource evaluation
☑ Permitting expertise
☑ Well rehabilitation

RELEVANCE TO THE AUTHORITY

RESPEC provided the following services to the Authority:

- Hydraulic Modeling
- Water Resources/ Hydrogeology
- Wellfield Development
- Permitting
- Funding
- Construction Management/ CEI Services

Program Description

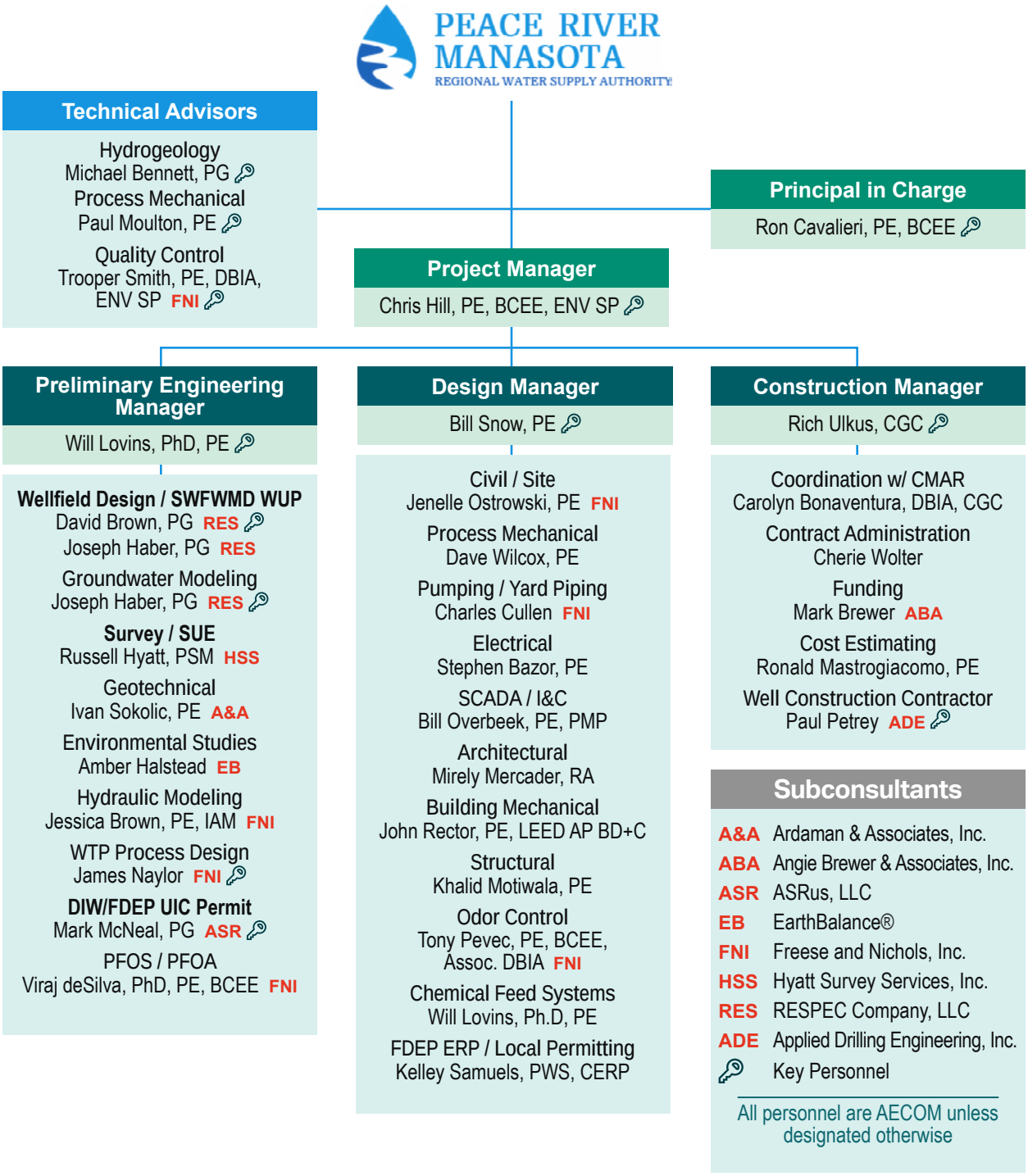
RESPEC (formerly Progressive Water Resources) has provided technical hydrologic and hydrogeologic, water supply planning, development and permitting services for the Authority since 2007. Since 2010, RESPEC has served the Authority under an ongoing General Hydrologic/Hydrogeologic Services contract. PWR/RESPEC has developed and successfully secured several WUPs for the Authority. In 2019, RESPEC assisted the Authority in securing the first 50-year WUP for public water supply in the State of Florida for Annual Average and Maximum Daily withdrawals of 80-mgd and 258-mgd, respectively. Most recently (2022), RESPEC assisted the Authority in permitting a 9.0-mgd brackish water wellfield consisting of an additional 10 production wells.

RESPEC has also assisted the Authority with a number of important water supply planning projects, including but not limited to a 2009 Source Water Feasibility Study, a 2015 Update to the Authority's Integrated Regional Water Supply Master Plan (IRWSMP), and its ongoing 2020 Update to the Authority's IRWSMP. RESPEC's role in these regional-scale water supply planning projects has included but not been limited to identification of potential regional water supply source opportunities, hydrogeologic and groundwater flow modeling assessment, development of demand projections, identification of water conservation opportunities, consideration of state and regional water management district water policy, cooperative funding, and regulatory considerations. RESPEC has also provided a number of technical hydrogeologic field services to the Authority in support of its ASR wellfields, and numerical groundwater flow modeling evaluation using regional models developed by the SWFWMD.

3.3. Organizational Chart

AECOM has assembled an exceptional team of professionals who have the expertise and experience to efficiently and effectively perform the professional engineering services for this project. Our project team members have been selected specifically for their experience and expertise in providing the services unique to this contract.

AECOM's personnel philosophy on project delivery is to involve the right personnel with the right technical expertise and experience needed, so that our client receives outstanding service.



AECOM

Section 4

Preliminary Project Understanding, Approach, and Schedule





4.1 Project Understanding and Approach

The AECOM team understands that the overall purpose of this project is to provide professional services for the planning, design, permitting and construction of a Brackish Groundwater Facility Project (Project) at the Authority's PRF. The initial work order for this Project will inform the Authority in selecting its next water supply development program.

The Project includes design and construction of a test Avon Park production well for the purpose of quantifying well performance and raw water quantity and quality characteristics. Testing is critical to evaluate results and provide reliable information to serve as the basis of design for the water treatment facility.

The initial professional services for the Project include completion of a 30% design stage preliminary design report (PDR) for proposed wellfield raw and finished water pumping, necessary conveyance at the PRF, water treatment, and concentrate disposal-related facilities. The Project will be considered for selection by the Authority Board in the April 2024 Board meeting. As such, the project will be implemented in a fast-track manner with test well design and construction proceeding in parallel with the 30% design.

If selected by the Board, the Authority may then proceed with expanding the Project to include additional design and/or construction professional services for the Brackish Groundwater Facility Project. These additional services will include:

- WUP, if needed for modifications of existing permit
- Regional groundwater flow modeling to support WUP conditions and design
- Underground Injection Control (UIC) permitting
- Public drinking water treatment facility permitting
- Environmental Resource Permitting (ERP)
- Other pertinent regulatory authorizations
- Detailed design and construction phase services

The Project builds upon the Authority's 10-plus years of planning and evaluation of the potential benefits of developing a new and separate brackish groundwater raw water supply source and treatment facility at the PRF. **The AECOM team brings first-hand** experience from its long-standing role as the Engineer of Record for the Peace River Expansions (PRE) #1 and #2. We were also integral to the preparation of the "Preliminary Investigation of Brackish Groundwater Opportunities at the Peace River Facility". The investigation also included a "Groundwater Resource Evaluation", an "Evaluation of Concentrate Disposal Options", a "Well Completion Report for the Peace River Exploratory Well", and a "Conceptual Design of Reverse Osmosis Facilities". The investigation concluded development of a 5.0-mgd finished water facility and concentrate disposal by Class I DIW is feasible at the PRF plant site.

Since AECOM's work on the Preliminary Investigation, other members of our team, RESPEC, have worked directly with the Authority to secure a WUP modification to construct brackish groundwater wells at total authorized Annual Average and Peak Month groundwater quantities of 9.0-mgd. Withdrawals are authorized from up to four Avon Park wells and up to six Intermediate Aquifer System Permeable Zone 3 (IAS PZ-3) wells. Assuming an 80% finished water recovery rate, the maximum daily finished water yield is expected to be at least 7.2-mgd. Furthermore, it may be feasible to increase the authorized raw water withdrawal quantities and expand and/or otherwise modify the raw water withdrawal facilities under an additional permit modification, which could also be performed as part of the Project. The AECOM team will work with the Authority to confirm the wellfield capacity and need for expansion of the authorized withdrawal quantities, pumping, conveyance, and treatment facilities.

After meeting with and listening to Authority staff, we have a firm understanding of the Authority's priorities and desired outcome. The proposed approach herein reflects our understanding of the technical needs and challenges, in addition to key aspects of interest and concern to the Authority, including:

- Having an effective communication strategy that keeps the Authority well informed of progress and solicits timely input on key decisions.
- Development of a conservative water supply and treatment approach, and cost estimating, to assist the Authority in successful interlocal agreement negotiations with member governments.
- Adhering to an aggressive project schedule and taking extra measures to fast-track critical path items such as procuring a local, highly qualified and reputable well field driller.
- Getting buy-in from operations staff via tours of brackish groundwater treatment facilities and involvement in design workshops.

- Coordination with the Authority's Owner's Agent (B&C) on project delivery approach.

Given our good working relationship, experience with similar alternative water supply projects, and our in-depth knowledge of the existing facilities our team is confident that we are well qualified and ideally suited for the unique challenges the Project presents.

Project Approach

The approach to our water treatment facility preliminary design begins with a holistic view that incorporates the source water and waste disposal options while accounting for the Authority's operational and supply objectives. Foremost among the technical challenges that we anticipate is ensuring the treatment technology and design is well suited to both the initial and future source water quality. This requires accurate identification of the raw water source quality for Day 1 operation and forecasting how water quality may change over time. Therefore, the treatment facility design must be flexible to treat the range of salinity over the life of the plant.

The AECOM team is adept, through its experience on similar projects, in identifying options for extending the treatment range at reasonable cost, both capital and O&M. The most important task is to identify these issues during preliminary design, thus allowing technical evaluation and cost determinations to be made among the raw water sources, treatment, and concentrate disposal opportunities.

Preliminary Design

This phase of work consists of preparing a PDR. The PDR represents a 30% design for a Brackish Groundwater Treatment Plant (BGWTP) at the PRF.

The PDR will be prepared to achieve three primary objectives for successful project completion:

1. Development of a sustainable groundwater supply
2. Providing reliable and cost effective treatment of the new groundwater supply
3. Concentrate disposal

The objective is to delineate the basic components of the BGWTP and to determine Class III level costs for the raw water supply wells and transmission system, treatment facility and concentrate disposal system. The following sections define the specific tasks to be performed in our proposed approach.

The PDR will include a wellfield layout, pre-treatment, desalination treatment, post-treatment including remineralization, concentrate disposal, and an overall process flow diagram. The facility will be sized for the selected treatment system with site plans showing the facility location, footprint, building layout, yard piping with tie-ins to the existing PRF. In addition, the PDR will include preliminary design for chemical feed systems, pumping, electrical, SCADA and instrumentation and control (I&C), HVAC/ plumbing, structural, architectural, and permitting.

Ultimately, the PDR will provide the information necessary for the Authority and stakeholders to reliably compare and contrast the cost and benefits of this project along with the other regional water supply projects.

As outlined below, the AECOM approach is structured to facilitate a fast-track schedule with the design proceeding in parallel with the groundwater evaluation, including the Avon Park well construction and testing.

Groundwater Supply Development

- Review and compile available groundwater supply information
- Summarize groundwater supply options for the following three aquifer zones:
  - Intermediate Aquifer System
  - Suwannee Limestone – Floridan Aquifer
  - Avon Park – Floridan Aquifer
- Prepare test well development plan including test well location, technical plans and specifications for well construction and testing, and permitting. AECOM has already entered into a teaming agreement with Applied Drilling and Engineering, Inc. (ADE) for completion of the Avon Park Test Well and testing program.
- Manage well driller as subcontractor to AECOM for well construction and testing. The scope of work and budget for the well construction and testing will be included in the Contract and Work Order No.1 for Board approval in the June 7, 2023, Board Meeting.
- Evaluate groundwater quality sources with emphasis on yield and long-term water quality and treatability
- Use groundwater modeling to establish long-term water quality trends and avoid problems while avoiding competition with other aquifers such as the existing ASR wells
- Determine wellfield configuration

Water Treatment Facility Design

- Perform treatment alternative analysis including cost and non-cost factors based on varying levels of initial and future degraded raw water salinity. Conduct workshop with Authority engineering and operations staff to identify treatment options for further alternative analysis.
- Utilize updated water quality obtained from the groundwater well testing program to:
  - Evaluate raw water feed from the Avon Park aquifer with and without blending from the Intermediate Aquifer System (IAS)
  - Determine design criteria for anticipated initial and future raw water salinity
  - Identify the optimal treatment option, including but not limited to:
    - Low Pressure Reverse Osmosis (LPRO)
    - Electro-Dialysis Reversal (EDR)
    - Closed Circuit RO (CCRO)
  - Determine raw water pretreatment requirements for selected treatment system
  - Identify post-treatment requirements for successful blending treated product water with existing PRF
  - Evaluate concentrate reduction options and cost effectiveness for minimizing waste disposal volume such as additional treatment stages for increased conversion efficiency. These options will be evaluated both as part of the primary treatment trains or separate operation as an independent final treatment stage
- Civil design to develop plant site layout showing location of proposed facilities including wellfield, conveyance, process building, chemical storage, pretreatment, post-treatment, odor control, standby power and new electric service and utility corridor layouts
- Architectural design to prepare preliminary building floor plan layout
- Process mechanical design to develop process design criteria and sizing for major process equipment including well pumps, pretreatment systems, chemical feed systems, desalination treatment, post-treatment, clear well, transfer pumping and interconnection with existing facilities
- Determine level of reliability required for major process equipment
- Electrical design for preliminary overall one-line diagram, electrical load calculations for major equipment, electrical feeds to the facility, electrical room sizing, redundancy requirements for power supplies, and power distribution and voltages for power distribution
- Instrumentation and control design and tie-ins to the exiting SCADA system
- Delineate use of existing treatment facilities for process control, pumping, storage, disinfection and blending
- Confirm selected water supply, treatment, and concentrate disposal option are sustainable and offer lowest life cycle cost

Concentrate Disposal

- Concentrate disposal system preliminary design for required capacity, location of deep injection well system, and UIC permitting
- Injection well design for disposal in the Oldsmar formation and (if needed) deeper zones of the lower Floridan aquifer
- Confirm disposal option is suitable for selected brackish water source and desalination treatment

Cost Estimate

AECOM understands how important cost estimates are in the evaluation of alternatives and selection of the Authority's next water supply project. We will prepare a Class 3 opinion of probable construction cost estimate for the Peace River Brackish Groundwater Facility option. The Class 3 estimate will be in accordance with AACE Recommended Practice No. 18R – 97 guidelines.

Project Delivery

If selected by the Authority for its next water supply project, AECOM will coordinate with the Authority's staff and Owner's agent on discussion and analysis of alternate project delivery methods. Our team has several staff members that are certified general contractors and DBIA certified. We have extensive knowledge of alternate delivery methods including design-bid-build, fixed price design-build, progressive design-build and construction manager at risk (CMAR). Since the RFQ includes option for design and construction phase services, we anticipate the delivery method will be CMAR.

The remaining sections detail our in-depth understanding and approach for developing a brackish groundwater supply at the PRF site. The

AECOM team fully recognizes and understands the importance of optimizing the wellfield for both water production and source water quality. As part of the preliminary design, we will project future water quality and account for these changes in the treatment process design. We will generate reliable forecasts through our extensive experience in solute transport groundwater modeling, and in the process, give the Authority confidence in basis for the plant final design. In addition, the design will optimize use of existing treatment facilities for process control, pumping, storage, disinfection and blending. Ultimately, we will recommend the water supply, treatment, and concentrate disposal options that are sustainable and at the most effective life cycle cost.

4.2 Brackish Groundwater **Wellfield**

The WUP modification issued by the SWFWMD authorizes brackish groundwater withdrawals up to 9.0-mgd on both an Annual Average and Peak Month basis. The successful construction and operation of the proposed brackish groundwater wellfield capable of supplying permitted quantities requires comprehensive knowledge of both hydrogeology and well construction. The hydrogeology at the PRF and the RV Griffin Reserve is comprised of three major hydrostratigraphic units identified as: 1) the Surficial Aquifer System (SAS); 2) the Intermediate Aquifer System (IAS), also referred to as the Intermediate Confining Unit; and 3) the Floridan Aquifer System (FAS). The FAS is subdivided into the UFA and LFA. The WUP authorizes up to 2-mgd from six IAS production wells, and up to 7-mgd from four UFA production wells, therefore the specific hydrostratigraphic units must be evaluated to understand yield and long-term water quality (salinity) trends. The long-term operation of the Brackish Groundwater Water Treatment Plant will require groundwater influent that possesses a relatively consistent water quality but also be designed for potential increase in salinity due to long-term operations, which reinforces the need for extensive working knowledge and experience in both the IAS and FAS.

Considerable technical information is available on both the IAS and FAS hydrostratigraphic units, however a 1998 SWFWMD report entitled ***ROMP 9.5 Intermediate Aquifer System Phase 1 Core Drilling and Testing***, and a 2013 report prepared for the Authority entitled ***Preliminary Investigation of Brackish Groundwater Development Opportunities at the Peace River Facility*** provide detailed site-specific hydrogeologic information. The 2013 report also details efforts to ascertain if a deep injection well could be used for disposal of effluent produced by a brackish groundwater water treatment plant. Much of the hydrogeologic and water quality information referenced herein is sourced from these reports.

The SAS is unconfined and consists of unconsolidated siliciclastic deposits and is primarily recharged by infiltration from rainfall. At the PRF, aquifer systems underlying the SAS have higher potentiometric head elevations and therefore exhibit an upward flow gradient. Consequently, most water movement in the SAS is lateral and influenced by topography, with groundwater flows moving away from areas of higher elevation and towards lower areas such as streams, lakes, or wetlands.

The IAS (aka Intermediate Confining Unit) is a complex sequence of interbedded, variably consolidated, sediments predominately associated with the Arcadia Formation which is comprised of two permeable zones (PZs), referred to as the Upper Arcadia zone (or PZ2) and the Lower Arcadia zone (or PZ3). The Lower Arcadia zone is often more productive, exhibits artesian flow, and has greater confinement from the overlying SAS. The Lower Arcadia zone has been identified at depths between 200 to 350 ft below land surface (bls) and is fresh to slightly brackish, with an average Total Dissolved Solids (TDS) concentration of approximately 550 milligrams per liter (mg/L). Production capacity from the Lower Arcadia can be highly variable, however individual wells finished into this zone can produce between 0.3 to 1-mgd. Care must be taken during well construction to avoid having the open hole constructed into the underlying Nocatee Member of the Arcadia Formation, that occurs at depths of approximately 400 ft bls, due to the presence of loose, fine-grained quartz sand. Withdrawals from the Lower Arcadia zone are not anticipated to result in adverse impacts to the SAS due to the confining characteristics of a thick sequence of carbonates and clay overlying the permeable zone. However, SWFWMD's newly released District-Wide Regulation Model Version 4 (DWRM4) indicates that permitted withdrawals from the Lower Arcadia zone may result in drawdowns in the SAS. The DWRM4 is the first SWFWMD groundwater flow model that utilizes a fully-3D discretization (i.e., confining units are simulated as layers). In accordance with the RFQ, our team will use currently available information on the SAS **to evaluate the confining characteristics of the**

overlying sediments and their ability to impede drawdowns resulting from the Lower Arcadia zone withdrawals.

The artesian Suwannee Limestone and Avon Park Formation permeable zones occur within the UFA and are separated by a semi-confining layer represented by the Ocala Limestone. The Suwannee Limestone permeable zone is currently used by the PRF for their ASR system and extends from approximately 550 ft to 850 ft bls. The Suwannee Limestone permeable zone is more saline than the IAS with an average TDS concentration of approximately 1,000 mg/L. Under high rates of withdrawal, this zone has shown increases in salinity due to upconing of denser, more mineralized groundwater as evidenced by water quality changes at ASR Wellfield No. 2. However, the Suwannee Limestone should be considered as a possible water supply source if optional testing determines that withdrawals will not adversely impact the Authority's operation of ASR Wellfield No. 2. Recent testing of several Suwannee Limestone ASR wells at the PRF indicate yields between 0.7 and 1.2-mgd. It should be noted that DWRM4 also indicates a significant upward movement of groundwater from the Avon Park Formation, through the Ocala Limestone semi-confining unit, when Suwannee Limestone production wells are simulated. Our team's proposed Avon Park Test Production Well **Plan includes methods to verify the confining characteristics of the Ocala semi-confining unit to** determine the feasibility of utilizing the Suwannee Limestone as a possible brackish water supply source.

The Avon Park Formation is currently not utilized by the PRF; however, testing has occurred using an onsite ASR test well (AP-1), constructed in 1993. AP-1 has a reported open hole interval from 1,303 to 1,484 ft bls, however geologic descriptions during its construction indicate that the top of the Avon Park Formation was encountered at approximately 1,000 ft bls. Testing of AP-1 indicates the presence of a highly permeable zone below 1,400 ft bls and individual wells open to the highly fractured portions of the Avon Park Formation are highly productive and can yield between 3 to 5-mgd. However, groundwater from the Avon Park Formation's lower permeable zone is also highly mineralized as evidenced by a 3-day pumping test performed in 1993 where the Total Dissolved Solids (TDS) concentration increased from 1,500 mg/L to 2,800 mg/L. A longer 90-day pumping test was also conducted using AP-1 in 1994 where TDS concentrations stabilized between 3,000 and 3,400 mg/L. A more recent 8-hour pumping test was conducted in 2013 at a rate of 3-mgd which yielded a TDS value of 5,350 mg/L. Clearly, water quality in the Avon Park Formation's highly permeable zone has not remained stable over time.

While AP-1's open hole interval results in its production being derived from the highly fractured zone below 1,400 ft bls, withdrawals from the upper Avon Park Formation, from approximately 1,000 to 1,350 ft bls, may present a more stable brackish source of groundwater. The water supply capabilities of the upper Avon Park Formation, that excludes the highly fractured zone, is expected to be lower and comparable to the overlying Suwannee Limestone permeable zone. As stated above, water quality testing of AP-1 indicates a steady increase in dissolved constituents since its construction in 1993. Therefore, it will be imperative that the Testing Plan includes methodologies for determining a sustainable yield for the upper Avon Park Formation. Results from the Avon Park Testing Plan will ultimately help to determine that a combination of Suwannee Limestone and upper Avon Park Formation production wells, or production wells completed only in the Avon Park, can meet the water production requirements and satisfy the need for stable water quality source necessary for prolonged operational life of the proposed brackish groundwater wellfield. In addition, given the inherent differences in yield and water quality expressed by each brackish water production well, a Wellfield Management Plan (WMP) that employs production well rotation, variable frequency drives (VFDs), production well water level and quality guidance levels, and monitor well trigger levels will be prepared.

The SWFWMD's District-Wide Regulation Model Version 4 (DWRM4) will be utilized to determine well spacing based on interference effects and drawdown calculations based on the permitted withdrawals from the upper Avon Park Formation. Once the proposed test production well is completed, the DWRM4 model will be used in combination with other public domain code in **development of wellfield management tool that** has the capabilities to optimize the start-up run-times and sequencing for each production well and used long-term to effectively operate this **wellfield to meet the current WUP conditions.**

In addition, SWFWMD's DWRM4 model along with USG-Transport code can be used to simulate groundwater flow and solute transport of long-tern salinity concentration at the permitted

allocation for the 7-mgd wellfield. The model will incorporate Block-Centered Transport (BCT) and Density-Dependent Flow (DDF) to simulate solute concentration and its impact on the flow field. This modeling approach is comprehensive and advanced, making it a powerful numerical tool for analyzing groundwater flow and long-tern salinity concentrations.

Using this combined approach, the model can then be used in a predictive analysis to determine long-term salinity trends based on the permitted withdrawal allocation from the upper Avon Park Formation. This salinity trend analysis over a 10 to 30-year simulation period will provide invaluable data for the 30% design of the water treatment components and material of construction.

Class I Injection Well System

The FDEP UIC Classifies BGWTP Concentrate disposal as Class I Industrial Injection Wells, which have some regulatory and construction differences from Class I municipal effluent injection wells.

Based on the exploratory well investigation conducted in 2012, the anticipated concentrate disposal generated via water treatment process of the raw water from the UFA at the site is between 1 and 2-mgd. Review of other Class I Injection Wells in this area indicate similar permeability/ injection capacity and it is not anticipated that will have significant variability in permeability of the LFA throughout this site. The recommended injection zone for a Class I industrial injection well (BGWTP concentrate) is the LFA from approximately 2,200 ft to 3,300 ft. The Avon Park high permeability zone (APHPZ) is present at the site; however, the base of the Underground Source of Drinking Water (USDW) occurs within the APHPZ and therefore it cannot be used for Class I Injection applications. The base of the USDW is estimated to occur at approximately 1,550 ft. In accordance with the RFQ, the preliminary engineering for design of the Class I Injection Well System will be based on currently available information.

An application for a Class I Well Construction and Testing Permit is recommended (versus a Class V Exploratory Permit). Permitting will take between 9 and 15 months based on the FDEP's UIC program current permit turn-around. Considerations for well siting evaluation will include the following: minimizing distance to the treatment facility; distance from previous exploratory well; space for drilling operations; space to co-locate a monitoring well within 150 ft; consideration for future infrastructure. A Class I Industrial injection well require the injection casing and injection tubing install to the top of the designated/permitted injection zone. The annular space between these overlapping casings (injection casing and injection tubing) can be fluid filled or filled with cement with various long-term cost, operational and monitoring advantages and disadvantages between a fluid filled annulus and cement filled annulus. All fluid injected via a Class I Industrial Well must be non-hazardous in chemical composition and characteristics. The FDEP stipulates that there is sufficient backup/ temporary disposal alternatives or storage capacity, if the duty well becomes inoperable or is taken offline during required testing operations (i.e., MITs) or maintenance, so there should consideration for a redundant well. A monitoring system that includes a dual-zone monitor well located within 150 ft of the completed Class I well(s).

The deep injection well drilling/construction market continues to be volatile. Pricing is highly variable and dependent on timing of other similar projects because there are only a few firms capable of drilling/ testing and constructing a Class I injection well to the depths proposed. Strategies will be developed and employed, such as pre-purchase of materials and equipment, to help mitigate cost variability. The anticipated schedule to construct a single Class I injection well and dual-zone monitor well is approximately 1 year, but depends on the selected firm's current workload and efficiency of their work-project management model. Similar LFA injection well projects have ranged from 9 months to 2 years depending on the selected drilling contractor.

Operational costs of an injection system will include energy for injection pumps, laboratory analysis, regulatory compliance reporting, 5-year Mechanical Integrity Test (MIT) demonstrations, 5-year permit renewals, and miscellaneous equipment maintenance and replacement and well maintenance to ensure required injection capacity is met.

4.3 Approach to Design, Oversight

The primary objective of the "Brackish Water Wellfield Test Plan" is to identify sustainable yield and water quality of Avon Park Formation of the UFA (with optional testing of the Suwanee Limestone) as well as determining the efficacy of the confining or semi-confining units above and below the respective permeable zones.

Due to the time constraints inherent in the RFQ that require the 30% PDR to be delivered to the Authority by the April 2024 Board Meeting, our team has developed this proposed well construction and testing approach to present the best chance to complete the well construction and testing activities and provide the best available data by April 2024. In addition, the RFQ states "Given the need to evaluate water supply projects by the April 2024 Authority Board Meeting, the 30% design for IAS PZ-3 production wells and DIW(s) for concentrate disposal is generally not expected to include well construction and testing, but rather is anticipated to rely upon previous onsite testing reports".

The completion of the Avon Park Test Production well construction and testing plan within the deadline stated in the RFQ will require a firm commitment of a Licensed Water Well Contractor to begin testing and construction within 30 days after the June 7, 2023, contract execution date.

The proposed Avon Park Test-Production Well Plan is as follows:

1. Install 30-inch diameter surface casing through the SAS.
2. Drill a pilot hole using mud rotary drilling method using a nominal 10-inch bit through the Upper and Lower Arcadia via mud rotary drilling until the Suwannee Limestone has been encountered. The pilot-hole will extend approximately 25 ft into the top of the Suwannee Limestone. Lithologic samples (drill cuttings) will be collected and described every 5 ft.
3. The nominal 10-inch pilot hole will then be geophysically (XYC, GR, DIL with SP, and BHCS with VDL) and video logged.
4. Final casing set depth to isolate sediments above the Suwannee Limestone will be determined using lithologic and geophysical log data.
5. Ream a nominal 30-inch diameter borehole to approximately 550 ft via mud-rotary drilling method. Record mechanical deviation surveys every 60 ft.
6. Pressure grout 24-inch Steel intermediate casing with neat cement to approximately 550 ft to isolate the Suwannee Limestone.
7. Drill a pilot hole using reverse-air drilling method to approximately 1,350 ft using a nominal 10-inch bit through the Suwannee Limestone, Ocala Limestone and Upper Avon Park Formation.
8. During pilot hole drilling, one (1) limestone core sample within the Ocala Limestone will be collected at for subsequent laboratory permeameter testing and conduct up to three single off-bottom packer tests to determine hydraulic and water quality through this confining unit.
9. Once the termination depth of 1,350 ft bls is reached, complete initial development using reverse-air and direct air methods.
10. Once the entire pilot hole from 550 ft to 1,350 ft bls is sufficiently developed, it will be geophysically (XYC, GR, DIL, BHCS with VDL, Static and Dynamic Temperature, Fluid Resistivity, and Flow Meter Logs (conducted under static and dynamic conditions) logged then conduct a downhole video survey under dynamic conditions will be conducted.
11. Backfill nominal 10-inch borehole from 1,350 ft bls back to approximately 1,000 ft bls
12. Drill/ream a nominal 24-inch borehole from 550 to 1,000 ft bls.
13. Install and cement approximately 1,000 ft of 17-inch SDR 17 PVC or Fiberglass Corrugated casing and pressure and tremie grout to surface.
14. Clean-out existing nominal 10 inch borehole from 1,000 to 1,350 ft then conduct initial development using reverse air method. Then complete final development using air-lift and pump development methods.
15. Run Temperature, Fluid Resistivity, and Flow Meter Logs under static and dynamic conditions) then conduct a downhole video survey completed.
16. Conduct 12-hour step drawdown tests at 250, 500, 750 and 1,000 gallons per minute (gpm) with each step taking 3 hours.
17. Conduct a 3-5-day Constant-Rate test at approximately 1,000 gpm with duration based on water quality stabilization.
18. Field measurements for pH, temperature, Sp. Conductance and Dissolved Oxygen (DO) will be monitored. Near the end of aquifer testing, collect a ground water sample from the Avon Park interval and submit to a NELAC laboratory to determine primary and secondary drinking water constituents.
19. During aquifer testing, water levels in the production well will be monitored in addition to the Authority's ASR Wellfield No. 2 production and monitoring wells.

20. Avon Park Formation parameters of transmissivity and storage will be determined.
21. The well contractor will be responsible for ensuring that water is properly discharged. Which may include routing approximately 7.2-mg of discharge water to the Authority's small reservoir (Reservoir No. 1).

The proposed Avon Park Test-Production Well Plan approach includes considerable flexibility in that additional water quality and hydraulic data could be obtained.

Optional Drilling and Testing Elements are as follows:

1. Conduct a Suwannee Limestone aquifer test using the installed 24-inch intermediate casing set at approximately 550 ft bls then ceasing pilot-thole drilling at 750 ft bls.
2. Conduct a combined aquifer test on the Suwannee/Ocala/upper Avon Park Formation after the nominal 10-inch pilot-hole from 550 to 1,350 ft bls;
3. Install monitor wells in the Surficial Aquifer to determine hydraulic connection with the UFA based on results of the 3-5 day aquifer test on the Avon Park Test-Production Well
4. Site the Avon Park Test-Production Well in close proximity of existing wells completed in the IAS and UFAS to better determine field-scale leakance values for the semi-confining units

Depending on the final production well construction details, the WUP may require Formal Modification and use of the site-specific groundwater flow model, if deemed necessary.

4.4 SWFWMD Regulatory Background

The PRF is located within SWFWMD's Southern Water Use Caution Area (SWUCA). The SWUCA was designated by the SWFWMD in 1992 to address declining UFA levels primarily due to groundwater withdrawals. The area encompasses approximately 5,100 square miles, including all of DeSoto, Hardee, Manatee and Sarasota counties, and parts of Charlotte, Highlands, Hillsborough and Polk counties.

There are three main areas of concern within the SWUCA:

1. Reduced flows in the Upper Peace River.
2. Reduced lake levels in the Ridge Lakes area (extends roughly 90 miles along the center of the state in Polk and Highlands counties).
3. Rate of saltwater intrusion into the UFA along the coast, especially in the Most Impacted Area (MIA), an area encompassing about 708 square miles located along the coast of southern Hillsborough, Manatee and northwestern Sarasota counties.

In response to the concerns listed above, SWFWMD adopted the SWUCA Recovery Strategy in 2006 and is implementing the strategy over a 20-year period. The four principal goals of the Recovery Strategy to achieve by 2025 include:

1. Achieve minimum flows in the upper Peace River.
2. Achieve Minimum Lake Levels in lakes along the Lake Wales Ridge.
3. Achieve the saltwater intrusion Minimum Aquifer Level.
4. Ensure water supply needs are met for existing and projected reasonable and beneficial uses.

To ensure the success of the Recovery Strategy, the SWFWMD implemented Minimum Flows and Levels (MFLs) in the SWUCA. An MFL is the limit at which further withdrawals would be significantly harmful to the water resources or ecology. SWFWMD continues to evaluate waterbodies within the SWUCA and adopt additional MFLs as needed. The Recovery Strategy also introduced the concept of a "Net Benefit" to provide additional flexibility in situations where existing rules, coupled with water supply planning and water resource development projects, are not adequate to achieve the Recovery Strategy goals. The Recovery Strategy also relies upon cumulative impact analyses in the form of groundwater flow modeling to evaluate changes in permitted and used groundwater quantities in and around the MIA. The MIA is an area of greater concern that includes portions of Hillsborough, Manatee and Sarasota Counties where salt-water intrusion has historically occurred within the SWUCA. The Salt-Water Intrusion Minimum Aquifer Level (SWIMAL) was developed in 2002 to slow the rate of salt-water intrusion in the MIA. No new impacts to the MIA are currently allowed under SWFWMD Rule.

District-Wide Regulation Model Version 4.0

Currently, the SWFWMD utilizes the District-Wide Regulation Model Version 4 (DWRM4) as its main groundwater impact analysis modeling tool. The version of the DWRM will be utilized for any modification of the WUP that includes either a redistribution or increase in quantities. The DWRM4 is the first fully 3D version of the DWRM (both permeable zones and confining units are simulated

as active layers) whereas previous versions of the DWRM were quasi-3D (confining units were simulated using a leakance value between permeable zones). The DWRM4 also uses MODFLOW-USG whereas previous versions used MODFLOW 2000 and MODFLOW 2005. The "USG" in MODFLOW-USG stands for "Unstructured Grid" which allows MODFLOW to utilize smaller grid spacing within the "Focus Area" that includes the Permittee or Applicant's groundwater withdrawals without the need for a grid expansion factor. In addition, each Focus model developed using DWRM4 now simulates the entire model domain whereas the previous versions of DWRM could be configured to create smaller sub-models. The DWRM4 is discretized into thirteen (13) active layers that simulate the SAS (Layer 1), Upper Arcadia permeable zone (Layer 3), Lower Arcadia permeable zone (Layer 5), UFA-Layer 7 (Suwannee Limestone), UFA-Layer 8 (Ocala Limestone), UFA-Layer 9 (Avon Park Formation), Lower Floridan Aquifer (LFA) Middle Confining Unit (MCU)– Layer 11 and the LFA below the MCU – Layer 13. Layers 2, 4, 6, 10 and 12 are active layers that simulate confining units.

WUP Considerations for a Brackish **Wellfield at the PRF**

The PRF is approximately 12 miles southwest of the MIA which is associated with the SWIMAL as previously discussed. In accordance with SWFWMD Rules, all WUP applications will be evaluated for their potential impact on the SWIMAL utilizing a cumulative impact assessment (i.e., groundwater flow modeling) based upon the best available information. As previously stated, DWRM4 represents the SWFWMD's "best available tool" for assessing potential impacts due to proposed groundwater withdrawals. Based on current SWFWMD Rules, a proposed withdrawal is determined to adversely impact the SWIMAL if it causes any lowering of the Floridan Aquifer potentiometric surface greater than ~0.0 feet (0.049 feet of drawdown) within the MIA, including at the boundary of the MIA. If an impact evaluation (i.e., groundwater flow simulation) indicates that a proposed withdrawal will result in increased impacts to the SWIMAL, the SWFWMD will only approve the application if the Applicant proposes to implement a form of groundwater offset whether that be a Self-relocation of existing permitted quantities or a "Net Benefit" in the form of Mitigation Plus Recovery.

In addition, all WUP applications are assessed on their potential impacts to environmental features including potential impacts to wetlands, rivers and streams. SWFWMD typically utilizes a 365-day simulation representing Average Annual groundwater withdrawals to assess localized impacts to environmental features. Potential impacts to the SAS (Layer 1) of the DWRM4 is typically utilized for this analysis.

All WUP applications for increases in groundwater withdrawals will also be assessed to determine if there is a potential for legal existing users of groundwater to be adversely impacted by the proposed withdrawal(s). Legal existing users of groundwater include all existing Water Use Permittees including those users that fall within the "General Permit by Rule" threshold in accordance with Rule 40D-2.041(3) which include most wells less than 6 inches in diameter. Typically, the SWFWMD utilizes a 90-day simulation that represents the Peak Month Daily (PMD) proposed groundwater withdrawal to assess localized impacts to legal existing users of groundwater. An impact analysis to assess potential adverse impact on legal existing users near the PRF would include all users within the 2-foot drawdown contours for the UAA (Layer 3), LAA (Layer 5) and Suwannee (Layer 7). Water quality with the Ocala and Avon Park (Layers 8 and 9) would require membrane treatment to utilize for either potable or irrigation supply. The only viable existing legal user in these zones in the area is the Authority.

The groundwater flow modeling results will also be used to assess potential impacts on other Minimum Flows and Levels (MFLs) including the Upper Peace, Ridge Lakes, MFL Lakes and Guidance Lakes. Both the Upper Peace and Ridge Lakes have target aquifer levels set by the SWFWMD. A lowering of the UFA potentiometric surface that causes the long-term UFA water level to decrease below the target levels set in SWFWMD Rule for either the Upper Peace or Ridge Lakes is not permittable. An assessment of which lakes have adopted MFL minimum levels and Guidance Levels as well as which lakes are meeting their minimum and guidance levels will also be required. Depending on whether an individual lake is meeting its minimum or guidance level will establish whether additional analysis is required to determine if groundwater withdrawals at the PRF will adversely impact the lake.

Our team's key personnel include former SWFWMD WUP evaluators and have decades of experience with WUP as well as the impact analyses necessary to successfully permit a redistribution of existing permitted quantities or additional groundwater quantities if required.

In addition, our key personnel were permit evaluators when DWRM Version 1 first became available in 2004. Together, our team has over 19 years' experience using the DWRM to authorize groundwater quantities within the SWFWMD.

4.5 Understanding and Approach to SCADA System Design

OBJECTIVE: Monitoring and control of production well levels, flows, and analytical data is critically important for effective operation of water supply and treatment facilities. The SCADA and instrumentation and control (I&C) system design must apply the right monitoring devices to the water supply and production process and use their information to provide both local control and interlock functions, and also provide critical real-time operational parameters for the treatment facility's operators.

Water supply and treatment process monitoring, and control requirements will be defined, and instrumentation and control equipment applied to the appropriate aspects of the water supply, transmission, and treatment processes. AECOM will conduct a workshop with the Authority's engineering and operations staff to identify the monitoring and control requirements. Detailed process flow diagrams will be developed to show all aspects of the treatment process and associated systems, including the wellfield, pre-treatment, desalination treatment, post-treatment, etc. Based on the process design, P&IDs will describe how instrumentation and control equipment will be applied to the process, including the details on how these devices interface to PLCs and the Facility SCADA System to provide monitoring and control functions.

Facility-wide monitoring and control is also critically important, and intelligent controllers (PLCs) will be included throughout the facility to provide these functions. GE Fanuc PLCs will be provided as process controllers, to ensure compatibility with the Authority's existing SCADA System. Communication between PLCs and with the Plant SCADA System will be Ethernet/TCP based and will use fiber optic cabling to provide high speed, reliable communication and electrical surge protection.

Process control narratives will describe how the how each process area will function and how the automatic and manual controls will operate. Process controllers will include automatic control features that, when enabled, will interface to control equipment and automatically operate it based on real-time process data. Alternatively, operators will be able to manually control process equipment remotely from any Operator Workstation on the SCADA System. Operators will also always have the means to take local control of equipment and operate it independently of the PLC and SCADA System.

If the Brackish Groundwater Facility project is selected by the Authority to go forward, AECOM anticipates that SCADA software development and integration will be the construction contractor's responsibility. However, our approach is to involve the Authority's SCADA and IT staff to provide their technical expertise in the design of the SCADA system. AECOM will conduct during the design phase a workshop with the Authority SCADA **and IT staff to define the SCADA system and** software requirements. Authority IT involvement is also critical to ensuring that proper network security is implemented. Depending on level of effort required and staff availability, PLC programming and integration into the SCADA System could also be supported by Authority staff. Creating the Operator Interface graphics to include new process data and control interface will also be done by the construction contractor integrator, following the Authority's software standards.

Wellfield production well levels will be monitored and used as a basis for well pump control. Raw water flow to the treatment process will be monitored and provided to SCADA. Additional analytical data, such as conductivity, pH, and turbidity will also be monitored and transmitted. All other process data necessary for safe, effective, reliable control will be provided by instrumentation appropriately installed and integrated into the control system. Communication with the existing PRF Facility is important for management of treatment requirements and blending in the brackish groundwater supply. Use of fiber optic communication is anticipated between these facilities.

The recommended SCADA and I&C design will be included in the Preliminary Engineering Report and submitted to the Authority for review and approval.

4.6 Cost Estimating Approach

OBJECTIVE: Complete Class 3 construction cost estimate and O&M cost for the Peace River Brackish Groundwater Facility to support the Authority's selection of its next water supply development project. The Class 3 estimate will be in accordance with AACE Recommended Practice No. 18R – 97 guidelines.

AECOM's Cost Estimating Group is staffed with seasoned professional estimators who possess the experience and capability to develop estimates throughout the AACE range of estimate levels from Rough Order of Magnitude (Class 5) to Hard Bid (Class 1) estimates, supporting all levels of design.

The estimate staff is experienced in all relevant trades including heavy civil, structural, architectural, process, electrical, SCADA and I&C and building mechanical work. The group also has experience in change order and claim support. Types of projects include: utility pipelines, tunneling, pump stations, WTP/WWTP, water reservoirs, environmental remediation and general construction among others. Because AECOM estimators have first-hand experience in the field performing complex projects, they understand the complexities of the scope, and work with the project team to identify potential pitfalls along with money and time savings. The estimating staff consists of 6 (six) estimators with over 200 years of construction experience, including six bachelor's degrees and three Master's degrees in construction. The staff also consists of CCE and CPE certified estimators.

Estimate generation is executed utilizing Sage Timberline Estimating software. Timberline is an open conductive (ODBC) system, allowing for electronic and digitized take-off. An AECOM developed and maintained database assists in providing current pricing and area cost factors. Estimates are developed to meet the AACE cost classification System

As part of the AECOM estimate process, estimators generate basis of estimates, risk analysis, contingency, area cost factor and escalation evaluations and reports to supplement the basis of estimate, reporting in one all-encompassing and inclusive estimate report. After estimate and budget establishment the estimators have experience in providing periodic reviews and recommendations on budget progress evaluation, in addition to continuing contingency analysis, and escalation adjustments.

AECOM's estimators have experience in working in a collaborative environment, such as integrated design/estimates and program support. In this environment it is vital that the estimators "embed" themselves in the design process to provide estimate support to facilitate value engineering, alternative generation and evaluation early in the design stage. The estimating group has a history of successfully working with the design teams in the development of programs form cradle to grave. Estimates range from $100k to over $26B.

In the development of an estimate, the estimating team will establish an appropriate WBS structure, generate the construction estimate, provide constructability reviews, and perform value engineering to ensure design and construction integrity while assisting in facilitating the most feasible and economic remediation design and construction method is invoked. The team presents the base estimate, value engineering options and alternative estimates that will help guide the Authority and team in deriving the selected approach. Historically this method has worked to the advantage of AECOM and our clients by flushing" out levels of uncertainty thereby resulting in a successful and favorable delivery for all parties involved.

At the thirty percent design stage, the design will contain some initial scaled drawings and equipment lists. Concrete thicknesses will be established and the estimate can begin to contain preliminary quantities of the larger ticketed items as well as site work, concrete, building types and square footage etc. We then proceed to develop costs of these quantifiable items and localize the pricing for Authority's service area/region. If the project is modeled in three dimensions, quantities can be secured from the use of Revit software. Contingencies are then determined by the estimator and project manager and set depending on the amount of detail obtained. The work breakdown structure of the estimate at this time is broken out by project elements determined by the Authority and project manager. Within the project elements the estimate is further broken out by CSI.

At 60%, 90% and 100% definitive estimates are performed, organized by CSI. Wage rates are localized to the Authority's service area as well as generic material costs. Appropriate contractor overheads are established. Contingencies are adjusted and appropriate escalation is added. AECOM obtains its prices from a broad variety of references including RS Means, Richardson's, Rental rate Blue Book, NECA Manual of Labor units, Vendor quotes, historic information, bid results. We also maintain a log of bid results vs engineer's estimates for validation.

4.7 Preliminary Engineering Schedule

A schedule for completion of the preliminary engineering on the Peace River Brackish Groundwater Facility Project is presented below. Our team's proposed schedule will achieve the Authority's objective to complete preliminary engineering and prepare a Class 3 construction cost estimate for the Project that will enable the Authority to select its next water supply project at the April 2024 Board meeting. A significant milestone in the schedule is to complete the Avon Park Test Production Well and well testing program by December 1, 2023. Consequently, **AECOM has entered into an exclusive teaming agreement with Applied Drilling Engineering, Inc. (ADE).** As per the Teaming Agreement, ADE has committed to begin well construction at the PRF within 30 days after Board approval of the contract and Work Order No. 1. The Schedule shows the anticipated duration and time of completion by task. A draft PDR will be completed and submitted to the Authority for review by February 28, 2024. After addressing the Authority's comments, the final PDR and presentation to the Board will be completed by March 31, 2024.

Task	*Description*	*2023*							*2024*			
		Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24
1.0	Project Management During Design											
	A. Board Approves Contract (06/07/2023)											
	B. Kickoff Meeting/NTP (June 14, 2023)											
	C. Progress Meetings/Workshops											
	D. Board Selects Next Water Supply Project (04/03/2024)											
2.0	Avon Park Test Production Well											
	A. Well Drilling											
	B. Well Testing Program											
	C. Technical Memorandum Preparation											
3.0	Permitting											
3.1	Pre-Application Meetings											
	A. SWFWMD/WUP											
	B. FDEP/UIC											
3.2	Environmental Studies/Survey											
4.0	Preliminary Engineering											
4.1	Wellfield Design Development											
	A. Groundwater Modeling											
	B. Summarize Supply Options											
	C. Evaluate Groundwater Quality											
	D. Select Wellfield Configuration											
4.2	Water Treatment Facility Design											
	A. Alternative Treatment Analysis											
	B. Determine Treatment & Conc. Disposal Requirements											
	C. Determine A/E Requirements											
4.3	Concentrate Disposal Design											
4.4	Construction Cost Estimate											
4.5	Preliminary Design Report (PDR)											
	A. Draft PDR											
	B. Final PDR											

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Section 5

Well Construction Contractor Approach





5.1 Well Construction Contractor

A licensed and experienced water well drilling contractor will be required to have successfully completed production wells of similar diameter and depth. The contractor will provide drilling rig and support equipment and have licensed driller onsite to drill and construct the Avon Park Test Production Well. Also, the contractor will provide a detail schedule showing the various drilling, testing and construction components to ensure there is no conflict of equipment and staff with other ongoing projects. Weekly progress meeting will be required to manage the contractor's schedule and avoid potential delays.

The contractor will have the capability and experience to obtain the lithologic and hydraulic data necessary to determine the feasibility and longevity of a successful brackish groundwater wellfield. The selected well drilling contractor will be required to possess recent, successful exploratory well drilling experience utilizing full-diameter coring, single downhole packer tests and provide geophysical logging services. The water well contractor will provide an equipment list and proof of qualified staff to perform the necessary construction and testing procedures. The contractor will need the capability to install up to a 30-inch Steel Surface Casings, 24-inch 3/8-inch thick carbon steel intermediate casing and nominal 17-inch Polyvinyl Chloride (PVC), Certa-Lok or Fiberglass Reinforced Plastic (FRP) production casings. Aquifer testing is anticipated, requiring test pumps including a submersible pump capable of discharging a minimum of 1,000 gallons per minute (gpm). Discharge rates will be monitored using Contractor supplied calibrated inline flowmeter and an orifice plate with manometer with static and pumped water levels recorded using calibrated downhole pressure transducers with internal memory. Water discharged during testing may require a pipeline for proper disposal.

5.2 Well Construction Contractor Approach

AECOM understands the Authority's concern on the availability of qualified well contractors to complete the exploratory testing program and test-production well construction within the time frame stipulated in the RFQ. Therefore, AECOM moved forward on an innovative approach for retaining a well construction contractor that will be ready to mobilize to the PRF within 30 days after Board approval of the contract and Work Order No. 1. As part of this approach, AECOM developed a summary of work related to the Avon Park Test Production Well Plan and prepared a line item summary of each major work component related to construction and testing of the Test Production Well along with estimated quantities. This information was provided to five (5) State of Florida licensed water well contractors to determine whether they would have the equipment and staff available to meet the proposed work plan and a start date of July 1, 2023. The Test Production Well Plan also includes a schedule with a required completion date of well construction and testing by December 1, 2023. This schedule is critical to achieving the overall project schedule and to provide necessary raw water quantity and quality data for the treatment facility design.

As a result of the above efforts, AECOM has entered into an exclusive teaming agreement with Applied Drilling Engineering, Inc. (ADE) to complete the proposed Avon Park Test Production Well plan. ADE has committed to having the appropriately sized drill rig, support equipment and staff to meet an early July 2023 start date and to complete all work by December 1, 2023. In addition, AECOM has verified that ADE meets qualifications and insurance requirements to perform the work as set forth in the prime contract.

Paul Petrey, WWC – *Well Construction Contractor*



Paul A Petrey has 37 years of quality experience directly related to his duties and responsibilities at Applied Drilling Engineering, Inc. After graduating in Petroleum Engineering from the University of Southwest Louisiana, Paul began his career began in the Oil & Gas Industry first in the US and then Overseas. In 2000, following the acquisition of Diversified Well Drilling, Paul returned to the US to work with Stuart again as the Operations Manager for the newly acquired company. At Diversified Drilling Corporation (DDC) Paul was responsible for managing a 16-rig drilling operation. In 2004, As the Operation Manager for DDC, all projects were completed on time and within budget. In 2005, Paul elected to leave Diversified, and began working for Black & Veatch as their ASR National Practice Leader. Paul resigned from Black & Veatch at the end of 2006 to start Applied Drilling Engineering. At Applied Drilling Engineering Paul continues to run Operations, both domestically and internationally.

Firm: Applied Drilling Eng.

Assigned Office: Tampa

Total Years Exp: 37

Education:
- BS, Petroleum Eng

Licenses: FL: Water Well Contractor (WWC) #9340

UIC Projects

Pasco County, Exploratory Well System, IW – 1 and DZMW – 1, FL: This project included the drilling and testing of one Class I injection Well (IW-1), with a dual string design FRP within steel casing, and dual zone monitor well.

City of Tarpon Springs, RO, Concentrate DIW, FL: This project included the drilling and testing of one Class I injection Well (IW-1), with a dual string design FRP within steel casing, and the upper zone and lower zone monitor wells.

City of Clearwater, Injection Deep Well Project, FL: This project included the drilling and testing of one Class I injection Well, with a dual string design FRP within steel casing, and the upper zone and lower zone monitor wells. This project was contracted in two Phases.

City of Oldsmar, Class I & Monitor Wells, FL: This project included the drilling and testing of one Class I injection Well, with a dual string design FRP within steel casing, and the upper zone and lower zone monitor wells.

Class V ASR Wells

Fort Myers Beach and Fiesta Villages, ASR, Drilling and Testing, FDEP Class V, FL: This project includes the drilling and testing of one Class V ASR Well, and the two associated monitor wells.

City of Bradenton, Surface Water ASR, 2 and Monitors, FDEP Class V, FL: This project included the drilling and testing of one Class V ASR Well, and the two associated monitor wells.

City of Palmetto, Class V & Monitors, FDEP Class V, FL: This project included the drilling and testing of one Class V ASR Well, and the two associated monitor wells.

City of Oldsmar, Reclaim Water ASR Well, FDEP Class V, FL: This project included the drilling and testing of one Class V ASR Well. The two associated monitor wells were drilled later under a different contract.

City of Naples, ASR Drilling and Testing, FDEP Class V, FL: This project includes the drilling and testing of one Class V ASR Well.

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Section 6
Required Forms





Key Staff Chart (Exhibit A)

Key Personnel	Key Staff Role on Design-Build Team	Employer	Years of Exp	**Assigned Office** City/State	Town of Davie New Water Treatment and WRF Progressive Design-Build, Davie, FL	Hialeah RO WTP, Design and **Start-up Services, Hialeah, FL**	**Oldsmar Brackish Water Supply and Treatment Facilities Planning and Construction,** Oldsmar, FL	**Florida Keys Aqueduct Authority Class I Industrial Deep Injection** Well System, Florida City, FL	**Deep Injection Well Expansion,** Manatee County, FL	Regional Water Supply Authority **Brackish Wellfield Water Use** Permitting, Sarasota, Charlotte, Manatee, DeSoto Counties, FL	**General Hydrologic/ Hydrogeologic Services,** Sarasota, Charlotte, Manatee, and DeSoto Counties, FL
Christopher Hill, PE, BCEE, ENV SP	Project Manager	AECOM	30	Tampa, FL							
Ron Cavalieri, PE, BCEE	Principal-in-Charge	AECOM	35	Fort Myers, FL							
Will Lovins, PhD, PE	Preliminary Engineering Manager	AECOM	27	Orlando, FL	●	●	●				
Bill Snow, PE	Design Manager	AECOM	48	West Palm Beach, FL	●	●					
David Brown, PG	Wellfield Design/SWFWMD WUP	RESPEC	40	Sarasota, FL							
Joseph Haber, PG	Groundwater Modeling	RESPEC	23	Tampa, FL						●	●
James Naylor	WTP Process Design	FNI	23	Denton, TX							
Rich Ulkus, CGC	Construction Manager	AECOM	40	Coral Gables, FL	●	●					
Paul Moulton, PE	Tech Advisor: Process Mechanical	AECOM	41	Pocasset, MA							
Trooper Smith, PE, DBIA, ENV SP	Quality Control	FNI	23	Tampa, FL							
Michael Bennett, PG	Tech Advisor: Hydrogeology	AECOM	36	West Palm Beach, FL	●			●			
Mark McNeal, PG	DIW/FDEP UIC Permit	ASRus	38	Tampa, FL					●		
Indicate (X) this row if the reference project was completed for the Authority										●	●

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Consultant shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Consultant employees hired on and after January 1, 2021. Additionally, Consultant shall require all subconsultants performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Consultant must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement

Affidavit

I hereby certify that **AECOM Technical Services, Inc.** (Contract holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of **AECOM Technical Services, Inc.** (Contract holder) proof of registration in the E-Verify system is attached to this Affidavit.

R. Cavalieri 3/22/2023

Signature Date

Ronald Cavalieri, PE, BCEE

Print Name **Associate Vice President/Authorize Signatory**

STATE OF **Florida**

COUNTY OF **Lee**

The foregoing instrument was acknowledged before me by means of ■ physical presence or □ online notarization, this 22nd day of February, 2023 by Ronald Cavalieri / Assoc V.P/Signatory (name of officer or agent, title of officer or agent) of Aecom Technical Services, Inc. (name of Consultant company acknowledging), a California (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced N/a (type of identification) as identification.

Cherie C. Wolter

Notary Public

CHERIE C. WOLTER
Notary Public - State of Florida
Commission # HH 061153
My Comm. Expires Nov 16, 2024
Bonded through National Notary Assn.

Cherie C. Wolter

Name typed, printed or stamped

My Commission Expires: Nov. 16, 2024

E-Verify – Proof of Verification

E-Verify

Company ID Number: 1349701

THE E-VERIFY
MEMORANDUM OF UNDERSTANDING
FOR WEB SERVICES EMPLOYERS

ARTICLE I
PURPOSE AND AUTHORITY

The parties to this Agreement are the Department of Homeland Security (DHS) and AECOM (Web Services Employer). The purpose of this agreement is to set forth terms and conditions which the Web Services Employer will follow while participating in E-Verify.

A Web Services Employer is an Employer who verifies employment authorization for its newly hired employees using a Web Services interface.

E-Verify is a program that electronically confirms a newly hired employee's authorization to work in the United States after completion of the Form I-9, Employment Eligibility Verification (Form I-9). This MOU explains certain features of the E-Verify program and describes specific responsibilities of the Web Services Employer, DHS, and the Social Security Administration (SSA).

For purposes of this MOU, the "E-Verify browser" refers to the website that provides direct access to the E-Verify system: https://e-verify.uscis.gov/emp/. You may access E-Verify directly free of charge via the E-Verify browser.

Authority for the E-Verify program is found in Title IV, Subtitle A, of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA), Pub. L. 104-208, 110 Stat. 3009, as amended (8 U.S.C. § 1324a note). The Federal Acquisition Regulation (FAR) Subpart 22.18, "Employment Eligibility Verification" and Executive Order 12989, as amended, provide authority for Federal contractors and subcontractors (Federal contractor) to use E-Verify to verify the employment eligibility of certain employees working on Federal contracts.

Before accessing E-Verify using Web Services access, the Web Services Employer must meet certain technical requirements. This will require the investment of significant amounts of resources and time. If the Web Services Employer is required to use E-Verify prior to completion and acceptance of its Web Services interface, then it must use the E-Verify browser until it is able to use its Web Services interface. The Web Services Employer must also maintain ongoing technical compatibility with E-Verify.

DHS accepts no liability relating to the Web Services Employer's development or maintenance of any Web Services access system.

E-Verify

Company ID Number: 1349701

ARTICLE II
RESPONSIBILITIES

A. RESPONSIBILITIES OF THE WEB SERVICES EMPLOYER

1. By enrolling in E-Verify and signing the applicable MOU, the Web Services Employer asserts that it is a legitimate company which intends to use E-Verify for legitimate purposes only and in accordance with the laws, regulations, and DHS policies and procedures relating to the use of E-Verify.

2. The Web Services Employer agrees to display the following notices supplied by DHS in a prominent place that is clearly visible to prospective employees and all employees who are to be verified through the system:

   a. Notice of E-Verify Participation

   b. Notice of Right to Work

3. The Web Services Employer agrees to provide to the SSA and DHS the names, titles, addresses, and telephone numbers of the Web Services Employer representatives to be contacted about E-Verify. The Web Services Employer also agrees to keep such information current by providing updated information to SSA and DHS whenever the representatives' contact information changes.

4. The Web Services Employer agrees to grant E-Verify access only to current employees who need E-Verify access. Web Services Employers must promptly terminate an employee's E-Verify access if the employer is separated from the company or no longer needs access to E-Verify.

5. The Web Services Employer agrees to become familiar with and comply with the most recent version of the E-Verify User Manual. The Web Services Employer will ensure that outdated manuals are promptly replaced with the new version of the E-Verify User Manual when it becomes available.

6. The Web Services Employer agrees that any person accessing E-Verify on its behalf is trained on the most recent E-Verify policy and procedures.

7. The Web Services Employer agrees that any of its representatives who will create E-Verify cases will complete the E-Verify Tutorial before creating any cases.

   a. The Web Services Employer agrees that all of its representatives will take the refresher tutorials when prompted by E-Verify in order to continue using E-Verify. Failure to complete a refresher tutorial will prevent the Employer Representative from continued use of E-Verify.

8. The Web Services E-Verify Employer Agent agrees to obtain the necessary equipment to use E- Verify as required by the E-Verify rules and regulations as modified from time to time.

9. The Web Services E-Verify Employer Agent agrees to, consistent with applicable laws, regulations, and policies, commit sufficient personnel and resources to meet the requirements of this MOU.

10. The Web Services Employer agrees to comply with current Form I-9 procedures, with two

E-Verify

Company ID Number: 1349701

exceptions:

   a. If an employee presents a "List B" identity document, the Web Services Employer agrees to only accept "List B" documents that contain a photo. (List B documents identified in 8 C.F.R. § 274a.2(b)(1)(B)) can be presented during the Form I-9 process to establish identity.) If an employee objects to the photo requirement for religious reasons, the Web Services Employer should contact E-Verify at 888-464-4218.

   b. If an employee presents a DHS Form I-551 (Permanent Resident Card), Form I-766 (Employment Authorization Document), or U.S. Passport or Passport Card to complete Form I-9, the Web Services Employer agrees to make a photocopy of the document and to retain the photocopy with the employee's Form I-9. The Web Services Employer will use the photocopy to verify the photo and to assist DHS with its review of photo mismatches that employees contest. DHS may in the future designate other documents that activate the photo screening tool.

Note: Subject only to the exceptions noted previously in this paragraph, employees still retain the right to present any List A, or List B and List C, document(s) to complete the Form I-9.

11. The Web Services Employer agrees to record the case verification number on the employee's Form I-9 or to print the screen containing the case verification number and attach it to the employee's Form I-9.

12. The Web Services Employer agrees that, although it participates in E-Verify, the Web Services Employer has a responsibility to complete, retain, and make available for inspection Forms I-9 that relate to its employees, or from other requirements of applicable regulations or laws, including the obligation to comply with the antidiscrimination requirements of section 274B of the INA with respect to Form I-9 procedures.

   a. The following modified requirements are the only exceptions to a Web Services Employer's obligation to not employ unauthorized workers and comply with the anti-discrimination provision of the INA: (1) List B identity documents must have photos, as described in paragraph 6 above; (2) When a Web Services Employer confirms the identity and employment eligibility of newly hired employee using E-Verify procedures, it establishes a rebuttable presumption that it has not violated section 274A(a)(1)(A) of the Immigration and Nationality Act (INA) with respect to the hiring of that employee; (3) If the Web Services Employer receives a final nonconfirmation for an employee, but continues to employ that person, the Web Services Employer must notify DHS and the Web Services Employer is subject to a civil money penalty between $550 and $1,100 for each failure to notify DHS of continued employment following a final nonconfirmation; (4) If the Web Services Employer continues to employ an employee after receiving a final nonconfirmation, then the Web Services Employer is subject to a rebuttable presumption that it has knowingly employed an unauthorized alien in violation of section 274A(a)(1)(A); and (5) no E-Verify participant is civilly or criminally liable under any law for any action taken in good faith based on information provided through the E-Verify.

   b. DHS reserves the right to conduct Form I-9 compliance inspections, as well as any other enforcement or compliance activity authorized by law, including site visits, to ensure proper use of

E-Verify

Company ID Number: 1349701

E-Verify.

13. The Web Services Employer is strictly prohibited from creating an E-Verify case before the employee has been hired, meaning that a firm offer of employment was extended and accepted and Form I-9 was completed. The Employer agrees to create an E-Verify case for new employees within three Employer business days after each employee has been hired (after both Sections 1 and 2 of Form I-9 have been completed), and to complete as many steps of the E-Verify process as are necessary according to the E-Verify User Manual. If E-Verify is temporarily unavailable, the three-day time period will be extended until it is again operational in order to accommodate the Employer's attempting, in good faith, to make inquiries during the period of unavailability. If, however, the Web Services interface is unavailable due to no fault of E-Verify, then the three day time period is not extended. In such a case, the Web Services Employer must use the E-Verify browser during the outage.

14. The Web Services Employer agrees not to use E-Verify for pre-employment screening of job applicants, in support of any unlawful employment practice, or for any other use that this MOU or the E-Verify User Manual does not authorize.

15. The Web Services Employer must use E-Verify for all new employees. The Web Services Employer will not verify selectively and will not verify employees hired before the effective date of this MOU. Employers who are Federal contractors may qualify for exceptions to this requirement as described in Article II.B of this MOU.

16. The Web Services Employer agrees to follow appropriate procedures (see Article III below) regarding tentative nonconfirmations. The Web Services Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Web Services Employer agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Web Services Employer agrees to provide written referral instructions to employees and instruct affected employees to bring the English copy of the letter to the SSA. The Web Services Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending. Further, when employees contest a tentative nonconfirmation based upon a photo mismatch, the Employer must take additional steps (see Article III.B below) to contact DHS with information necessary to resolve the challenge.

17. The Web Services Employer agrees not to take any adverse action against an employee based upon the employee's perceived employment eligibility status while SSA or DHS is processing the verification request unless the Employer obtains knowledge (as defined in 8 C.F.R. § 274a.1(l)) that the employee is not work authorized. The Web Services Employer understands that an initial inability of the SSA or DHS automated verification system to verify work authorization, a tentative nonconfirmation, a case in continuance (indicating the need for additional time for the government to resolve a case), or the finding of a photo mismatch, does not establish, and should not be interpreted as, evidence that the employee is not work authorized. In any of such cases, the employee must be provided a full and fair opportunity to contest the finding, and if he or she does so, the employee may not be terminated or suffer any adverse employment consequences based upon the employee's perceived employment

eligibility status (including denying, reducing, or extending work hours, delaying or preventing training, requiring an employee to work in poorer conditions, withholding pay, refusing to assign the employee to a Federal contract or other assignment, or otherwise assuming that he or she is unauthorized to work) until and unless secondary verification by SSA or DHS has been completed and a final nonconfirmation has been issued. If the employee does not choose to contest a tentative nonconfirmation or a photo mismatch or if a secondary verification is completed and a final nonconfirmation is issued, then the Web Services Employer can find the employee is not work authorized and terminate the employee's employment. Employers or employees with questions about a final nonconfirmation may call E-Verify at 1-888-464-4218 (customer service) or 1-888-897-7781 (worker hotline).

18. The Web Services Employer agrees to comply with Title VII of the Civil Rights Act of 1964 and section 274B of the INA as applicable by not discriminating unlawfully against any individual in hiring, firing, employment eligibility verification, or recruitment or referral practices because of his or her national origin or citizenship status, or by committing discriminatory documentary practices. The Web Services Employer understands that such illegal practices can include selective verification or use of E-Verify except as provided in part D below, or discharging or refusing to hire employees because they appear or sound "foreign" or have received tentative nonconfirmations. The Web Services Employer further understands that any violation of the immigration-related unfair employment practices provisions in section 274B of the INA could subject the Web Services Employer to civil penalties, back pay awards, and other sanctions, and violations of Title VII could subject the Web Services Employer to back pay awards, compensatory and punitive damages. Violations of either section 274B of the INA or Title VII may also lead to the termination of its participation in E-Verify. If the Web Services Employer has any questions relating to the anti-discrimination provision, it should contact OSC at 1-800-255-8155 or 1-800-237-2515 (TDD).

19. The Web Services Employer agrees that it will use the information it receives from E-Verify only to confirm the employment eligibility of employees as authorized by this MOU. The Web Services Employer agrees that it will safeguard this information, and means of access to it (such as PINS and passwords), to ensure that it is not used for any other purpose and as necessary to protect its confidentiality, including ensuring that it is not disseminated to any person other than employees of the Web Services Employer who are authorized to perform the Web Services Employer's responsibilities under this MOU, except for such dissemination as may be authorized in advance by SSA or DHS for legitimate purposes.

20. The Web Services Employer agrees to notify DHS immediately in the event of a breach of personal information. Breaches are defined as loss of control or unauthorized access to E-Verify personal data. All suspected or confirmed breaches should be reported by calling 1-888-464-4218 or via email at E-Verify@dhs.gov. Please use "Privacy Incident – Password" in the subject line of your email when sending a breach report to E-Verify.

21. The Web Services Employer acknowledges that the information it receives from SSA is governed by the Privacy Act (5 U.S.C. § 552a(i)(1) and (3)) and the Social Security Act (42 U.S.C. 1306(a)). Any person who obtains this information under false pretenses or uses it for any purpose other than as provided for in this MOU may be subject to criminal penalties.

22. The Web Services Employer agrees to cooperate with DHS and SSA in their compliance monitoring and evaluation of E-Verify, which includes permitting DHS, SSA, their contractors and other agents, upon reasonable notice, to review Forms I-9 and other employment records and to interview it and its employees regarding the Employer's use of E-Verify, and to respond in a prompt and accurate manner to DHS requests for information relating to their participation in E-Verify.

a. The Web Services Employer agrees to cooperate with DHS if DHS requests information about the Web Services Employer's interface, including requests by DHS to view the actual interface operated by the Web Services Employer as well as related business documents. The Web Services Employer agrees to demonstrate for DHS the functionality of its interface to E-Verify upon request.

23. The Web Services Employer shall not make any false or unauthorized claims or references about its participation in E-Verify on its website, in advertising materials, or other media. The Employer shall not describe its services as federally-approved, federally-certified, or federally-recognized, or use language with a similar intent on its website or other materials provided to the public. Entering into this MOU does not mean that E-Verify endorses or authorizes your E-Verify services and any claim to that effect is false.

24. The Web Services Employer shall not state in its website or other public documents that any language used therein has been provided or approved by DHS, USCIS or the Verification Division, without first obtaining the prior written consent of DHS.

25. The Web Services Employer agrees that E-Verify trademarks and logos may be used only under license by DHS/USCIS (see M-795 (Web)) and, other than pursuant to the specific terms of such license, may not be used in any manner that might imply that the Employer's services, products, websites, or publications are sponsored by, endorsed by, licensed by, or affiliated with DHS, USCIS, or E-Verify.

26. The Web Services Employer agrees to complete its Web Services interface no later than six months after the date the Web Services Employer signs this MOU. E-Verify considers the interface to be complete once it has been built pursuant to the Interface Control Agreement (ICA), submitted to E-Verify for testing, and approved for system access.

27. The Web Services Employer agrees to perform sufficient maintenance on the Web Services interface in accordance with the requirements listed in the ICA. These requirements include, but are not limited to, updating the Web Services interface to ensure that any updates or enhancements are incorporated no later than six months after the issuance of an ICA. Web Services Employers should be aware that this will require the investment of time and resources. Compliance with the requirements of the ICA must be carried out to the satisfaction of DHS and or its assignees.

28. The Web Services Employer agrees that any system or interface it develops will follow the steps for creating E-Verify cases and processing tentative nonconfirmations, as laid out in the ICA, this MOU and the User Manual, including but not limited to allowing an employer to close an invalid case where appropriate, allowing an employer to refer a tentative nonconfirmation only when an employee chooses to contest a tentative nonconfirmation (no automatic referrals), and referring a tentative nonconfirmation

to the appropriate agency at the time the employer prints the referral letter and provides the letter to the employee. The Web Services Employer understands that any failure to make its system or interface consistent with proper E-Verify procedures can result in DHS terminating the Web Services Employer's agreement and access.

29. The Web Services Employer understands that if it uses E-Verify procedures for any purpose other than as authorized by this MOU, the Web Services Employer may be subject to appropriate legal action and termination of its participation in E-Verify according to this MOU.

B. EMPLOYERS THAT ARE FEDERAL CONTRACTORS WITH THE FAR E-VERIFY CLAUSE

NOTE: If you do not have any Federal contracts at this time, this section does not apply to your company. In the future, if you are awarded a Federal contract that contains the FAR E-Verify clause, then you must comply with each provision in this Section. See 48 C.F.R. 52.222.54 for the text of the FAR E-Verify clause and the E-Verify Supplemental Guide for Federal Contractors for complete information.

1. If the Web Services Employer is a Federal contractor with the FAR E-Verify clause subject to the employment verification terms in Subpart 22.18 of the FAR, it will become familiar with and comply with the most current version of the E-Verify User Manual for Federal Contractors as well as the E-Verify Supplemental Guide for Federal Contractors.

2. In addition to the responsibilities of every employer outlined in this MOU, the Web Services Employer understands that if it is a Federal contractor subject to the employment verification terms in Subpart 22.18 of the FAR it must verify the employment eligibility of any "employee assigned to the contract" (as defined in FAR 22.1801). Once an employee has been verified through E-Verify by the Web Services Employer, the Employer may not create a second case for the employee through E-Verify.

a. A Web Services Employer that is not enrolled in E-Verify as a Federal contractor at the time of a contract award must enroll as a Federal contractor in the E-Verify program within 30 calendar days of contract award and, within 90 days of enrollment, begin to verify employment eligibility of new hires using E-Verify. The Web Services Employer must verify those employees who are working in the United States, whether or not they are assigned to the contract. Once the Web Services Employer begins verifying new hires, such verification of new hires must be initiated within three business days after the hire date. Once enrolled in E-Verify as a Federal contractor, the Web Services Employer must begin verification of employees assigned to the contract within 90 calendar days after the date of enrollment or within 30 days of an employee's assignment to the contract, whichever date is later.

b. Web Services Employers enrolled in E-Verify as a Federal contractor for 90 days or more at the time of a contract award must use E-Verify to begin verification of employment eligibility for new hires of the Employer who are working in the United States, whether or not assigned to the contract, within three business days after the date of hire. If the Web Services Employer is enrolled in E-Verify as a Federal contractor for 90 calendar days or less at the time of contract award, the Web Services Employer must, within 90 days of enrollment, begin to use E-Verify to initiate

verification of new hires of the contractor who are working in the United States, whether or not assigned to the contract. Such verification of new hires must be initiated within three business days after the date of hire. A Web Services Employer enrolled as a Federal contractor in E-Verify must begin verification of each employee assigned to the contract within 90 calendar days after date of contract award or within 30 days after assignment to the contract, whichever is later.

c. Federal contractors that are institutions of higher education (as defined at 20 U.S.C. 1001(a)), state or local governments, governments of Federally recognized Indian tribes, or sureties performing under a takeover agreement entered into with a Federal agency under a performance bond may choose to only verify new and existing employees assigned to the Federal contract. Such Federal contractors may, however, elect to verify all new hires, and/or all existing employees hired after November 6, 1986. Web Services Employers in this category must begin verification of employees assigned to the contract within 90 calendar days after the date of enrollment or within 30 days of an employee's assignment to the contract, whichever date is later.

d. Upon enrollment, Web Services Employers who are Federal contractors may elect to verify employment eligibility of all existing employees working in the United States who were hired after November 6, 1986, instead of verifying only those employees assigned to a covered Federal contract. After enrollment, Web Services Employers must elect to verify existing staff following DHS procedures and begin E-Verify verification of all existing employees within 180 days after the election.

e. The Web Services Employer may use a previously completed Form I-9 as the basis for creating an E-Verify case for an employee assigned to a contract as long as:

i. That Form I-9 is complete (including the SSN) and complies with Article II.A.6,

ii. The employee's work authorization has not expired, and

iii. The Web Services Employer has reviewed the Form I-9 information either in person or in communications with the employee to ensure that the employee's Section 1, Form I-9 attestation has not changed (including, but not limited to, a lawful permanent resident alien having become a naturalized U.S. citizen).

f. The Web Services Employer shall complete a new Form I-9 consistent with Article II.A.10 or update the previous Form I-9 to provide the necessary information if:

i. The Web Services Employer cannot determine that Form I-9 complies with Article II.A.10,

ii. The employee's basis for work authorization as attested in Section 1 has expired or changed, or

iii. The Form I-9 contains no SSN or is otherwise incomplete.

Note: If Section 1 of Form I-9 is otherwise valid and up-to-date and the form otherwise complies with Article II.A.10, but reflects documentation (such as a U.S. passport or Form I-551) that expired after completing Form I-9, the Web Services Employer shall not require the production of additional documentation, or use the photo screening tool described in Article II.A.5, subject to any additional or superseding instructions that may be provided on this subject in the E-Verify User Manual.

g. The Web Services Employer agrees not to require a second verification using E-Verify of any assigned employee who has previously been verified as a newly hired employee under this MOU or to authorize verification of any existing employee by any Web Services Employer that is not a Federal contractor based on this Article.

3. The Web Services Employer understands that if it is a Federal contractor, its compliance with this MOU is a performance requirement under the terms of the Federal contract or subcontract, and the Web Services Employer consents to the release of information relating to compliance with its verification responsibilities under this MOU to contracting officers or other officials authorized to review the Employer's compliance with Federal contracting requirements.

C. RESPONSIBILITIES OF SSA

1. SSA agrees to allow DHS to compare data provided by the Web Services Employer against SSA's database. SSA sends DHS confirmation that the data sent either matches or does not match the information in SSA's database.

2. SSA agrees to safeguard the information the Web Services Employer provides through E-Verify procedures. SSA also agrees to limit access to such information, as is appropriate by law, to individuals responsible for the verification of Social Security numbers or responsible for evaluation of E-Verify or such other persons or entities who may be authorized by SSA as governed by the Privacy Act (5 U.S.C. § 552a), the Social Security Act (42 U.S.C. 1306(a)), and SSA regulations (20 CFR Part 401).

3. SSA agrees to provide case results from its database within three Federal Government work days of the initial inquiry. E-Verify provides the information to the Web Services Employer.

4. SSA agrees to update SSA records as necessary if the employee who contests the SSA tentative nonconfirmation visits an SSA field office and provides the required evidence. If the employee visits an SSA field office within the eight Federal Government work days from the date of referral to SSA, SSA agrees to update SSA records, if appropriate, within the eight-day period unless SSA determines that more than eight days may be necessary. In such cases, SSA will provide additional instructions to the employee. If the employee does not visit SSA in the time allowed, E-Verify may provide a final nonconfirmation to the employer.

Note: If a Web Services Employer experiences technical problems, or has a policy question, the Web Services Employer should contact E-Verify at 1-888-464-4218.

D. RESPONSIBILITIES OF DHS

1. After SSA verifies the accuracy of SSA records for employees through E-Verify, DHS agrees to provide the Web Services Employer access to selected data from DHS databases to enable the Web Services Employer to conduct, to the extent authorized by this MOU:

a. Automated verification checks on employees by electronic means, and

b. Photo verification checks (when available) on employees.

2. DHS agrees to provide to the Web Services Employer appropriate assistance with operational problems that may arise during the Web Services Employer's participation in the E-Verify program. DHS agrees to provide the Web Services Employer names, titles, addresses, and telephone numbers of DHS representatives to be contacted during the E-Verify process.

3. DHS agrees to make available to the Web Services Employer at the E-Verify Web site (www.dhs.gov/E-Verify) and on the E-Verify Web browser (https://e-verify.uscis.gov/emp/), instructional materials on E-Verify policies, procedures and requirements for both SSA and DHS, including restrictions on the use of E-Verify. DHS agrees to provide training materials on E-Verify.

4. DHS agrees to provide to the Web Services Employer a notice that indicates the Web Services Employer's participation in the E-Verify program. DHS also agrees to provide to the Web Services Employer anti-discrimination notices issued by the Office of Special Counsel for Immigration-Related Unfair Employment Practices (OSC), Civil Rights Division, U.S. Department of Justice.

5. DHS agrees to issue the Web Services Employer a user identification number and password that permits the Employer to verify information provided by its employees with DHS.

6. DHS agrees to safeguard the information provided to DHS by the Web Services Employer, and to limit access to such information to individuals responsible for the verification of employees' employment eligibility and for evaluation of the E-Verify program, or to such other persons or entities as may be authorized by applicable law. Information will be used only to verify the accuracy of Social Security Numbers and employment eligibility, to enforce the Immigration and Nationality Act (INA) and Federal criminal or anti-discrimination laws, and to administer Federal contracting requirements.

7. DHS agrees to provide a means of automated verification that is designed (in conjunction with SSA verification procedures) to provide confirmation or tentative nonconfirmation of employees' employment eligibility within three Federal Government work days of the initial inquiry.

8. DHS agrees to provide a means of secondary verification (including updating DHS records as necessary) for employees who contest DHS tentative nonconfirmations and photo non-match tentative nonconfirmations that is designed to provide final confirmation or nonconfirmation of the employees' employment eligibility within 10 Federal Government work days of the date of referral to DHS, unless DHS determines that more than 10 days may be necessary. In such cases, DHS will provide additional verification instructions.

9. DHS agrees to provide the Web Services Employer with an Interface Control Agreement (ICA). This document will provide technical requirements that the Web Services Employer must meet to create and maintain a Web Services interface to the Verification Information System (VIS). VIS is a composite information system that provides immigration status verification for government agencies and verification of employment authorization for employers participating in E-Verify.

10. DHS agrees to provide periodic system enhancements to improve the ease and accuracy of E-Verify, as needed. DHS will also provide E-Verify enhancements to comply with applicable laws and regulations. As enhancements occur, Web Services Employers must update their Web Services

interface to reflect system changes within the timelines specified in Article V.A.1. DHS will provide the Web Services Employer with an ICA to support the E-Verify release whenever system enhancements are required.

11. DHS agrees to provide to the Web Services Employer guidance on breach notification and a means by which the Web Services Employer can report any and all suspected or confirmed breaches of owned or used systems or data spills related to E-Verify cases. At this time, if the Employer encounters a suspected or confirmed breach or data spill, it should contact E-Verify at 1-888-464-4218.

12. In the event the Web Services Employer is subject to penalties, DHS will issue a Notice of Adverse Action that describes the specific violations if it intends to suspend or terminate the employer's Web Services interface access. The Web Services Employer agrees that DHS shall not be liable for any financial losses to the Web Services Employer, its employees, or any other party as a result of your account suspension or termination and agrees to hold DHS harmless from any such claims.

ARTICLE III

REFERRAL OF INDIVIDUALS TO SSA AND DHS

A. REFERRAL TO SSA

1. If the Web Services Employer receives a tentative nonconfirmation issued by SSA, the Web Services Employer must print the notice and promptly provide it to the employee so that the employee may determine whether he or she will contest the tentative nonconfirmation. The Web Services Employer must review the tentative nonconfirmation with the employee in private. After the notice has been signed, the Web Services Employer must give a copy of the signed notice to the employee and attach a copy to the employee's Form I-9.

2. The Web Services Employer will refer employees to SSA field offices only as directed by the automated system based on a tentative nonconfirmation, and only after the Web Services Employer records the case verification number, reviews the input to detect any transaction errors, and determines that the employee contests the tentative nonconfirmation. The Web Services Employer will transmit the Social Security Number to SSA for verification again if this review indicates a need to do so. The Web Services Employer will determine whether the employee contests the tentative nonconfirmation as soon as possible after the Employer receives it.

3. If the employee contests an SSA tentative nonconfirmation, the Web Services Employer will provide the employee with a system-generated referral letter and instruct the employee to visit an SSA office within eight Federal Government work days. SSA will electronically transmit the result of the referral to the Web Services Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary. The Employer agrees to check the E-Verify system regularly for case updates.

4. The Web Services Employer agrees not to ask the employee to obtain a printout from the Social Security Number database (the Numident) or other written verification of the Social Security Number from the SSA.

B. REFERRAL TO DHS

1. If the Web Services Employer receives a tentative nonconfirmation issued by DHS, the Web Services Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Web Services Employer also agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Web Services Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending.

2. The Web Services Employer agrees to obtain the employee's response about whether he or she will contest the tentative nonconfirmation as soon as possible after the Web Services Employer receives the tentative nonconfirmation. Only the employee may determine whether he or she will contest the tentative nonconfirmation.

3. The Web Services Employer agrees to refer individuals to DHS only when the employee chooses to contest a tentative nonconfirmation.

4. If the employee contests a tentative nonconfirmation issued by DHS, the Web Services Employer will instruct the employee to contact DHS through its toll-free hotline (as found on the referral letter) within eight Federal Government work days.

5. If the Web Services Employer finds a photo mismatch, the Web Services Employer must provide the photo mismatch tentative nonconfirmation notice and follow the instructions outlined in paragraph 1 of this section for tentative nonconfirmations, generally.

6. The Web Services Employer agrees that if an employee contests a tentative nonconfirmation based upon a photo mismatch, the Web Services Employer will send a copy of the employee's Form I-551, Form I-766, U.S. Passport, or passport card to DHS for review by:

a. Scanning and uploading the document, or

b. Sending a photocopy of the document by express mail (furnished and paid for by the employer).

7. The Web Services Employer understands that if it cannot determine whether there is a photo match/mismatch, the Employer must forward the employee's documentation to DHS as described in the preceding paragraph. The Employer agrees to resolve the case as specified by the DHS representative who will determine the photo match or mismatch.

8. DHS will electronically transmit the result of the referral to the Web Services Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary.

9. While waiting for case results, the Web Services Employer agrees to check the E-Verify system regularly for case updates.

10. DHS agrees to provide the Web Services Employer with an Interface Control Agreement (ICA).

This document will provide technical requirements that the Web Services Employer must meet to create and maintain a Web Services interface to the Verification Information System (VIS). VIS is a composite information system that provides immigration status verification for government agencies and verification of employment authorization for employers participating in E-Verify.

11. DHS agrees to provide periodic system enhancements to improve the ease and accuracy of E-Verify, as needed. DHS will also provide E-Verify enhancements to comply with applicable laws and regulations. As enhancements occur, Web Services Employers must update their Web Services interface to reflect system changes within the timelines specified in Article V.A.1. DHS will provide the Web Services Employer with an ICA to support the E-Verify release whenever system enhancements are required.

ARTICLE IV
SERVICE PROVISIONS

A. NO SERVICE FEES

1. SSA and DHS will not charge the Employer or the Web Services E-Verify Employer Agent for verification services performed under this MOU. The Employer is responsible for providing equipment needed to make inquiries. To access E-Verify, an Employer will need a personal computer with Internet access.

ARTICLE V
SYSTEM SECURITY AND MAINTENANCE

A. DEVELOPMENT REQUIREMENTS

1. Software developed by Web Services Employers must comply with federally-mandated information security policies and industry security standards to include but not limited to:

a. Public Law 107-347, "E-Government Act of 2002, Title III, Federal Information Security Management Act (FISMA)," December 2002.

b. Office of Management and Budget (OMB) Memorandum (M-10-15), "FY 2010 Reporting Instructions for the Federal Information Security Management Act and Agency Privacy Management," April 2010.

c. National Institute of Standards and Technology (NIST) Special Publication (SP) and Federal Information Processing Standards Publication (FIPS).

d. International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 27002, Information Technology — Security Techniques — Code of Practice for Information Security Management.

2. The Web Services Employer agrees to update its Web Services interface to the satisfaction of DHS or its assignees to reflect system enhancements within six months from the date DHS notifies the Web Services User of the system update. The Web Services User will receive notice from DHS in the form

of an Interface Control Agreement (ICA). The Web Services Employer agrees to institute changes to its interface as identified in the ICA, including all functionality identified and all data elements detailed therein.

3. The Web Services Employer agrees to demonstrate progress of its efforts to update its Web Services interface if and when DHS requests such progress reports.

4. The Web Services Employer acknowledges that if its system enhancements are not completed to the satisfaction of DHS or its assignees within six months from the date DHS notifies the Web Services Employer of the system update, then the Web Services Employer's E-Verify account may be suspended, and support for previous releases of E-Verify may no longer be available to the Web Services Employer. The Web Services Employer also acknowledges that DHS may suspend its account after the six-month period has elapsed.

5. The Web Services Employer agrees to incorporate error handling logic into its development or software to accommodate and act in a timely fashion should an error code be returned.

6. The Web Services Employer agrees to complete the technical requirements testing which is confirmed upon receiving approval of test data and connectivity between the Web Services Employer and DHS.

7. DHS will not reimburse any Web Services Employer or software developer who has expended resources in the development or maintenance of a Web Services interface if that party is unable, or becomes unable, to meet any of the requirements set forth in this MOU.

8. Housing, development, infrastructure, maintenance, and testing of the Web Services applications may take place outside the United States and its territories, but testing must be conducted to ensure that the code is correct and secure.

9. Tf the Web Services Employer includes an electronic Form I-9 as part of its interface, then it must comply with the standards for electronic retention of Form I-9 found in 8 CFR 274a.2(e).

B. INFORMATION SECURITY REQUIREMENTS

Web Services Employers performing verification services under this MOU must ensure that information that is shared between the Web Services Employer and DHS is appropriately protected comparable to the protection provided when the information is within the DHS environment [OMB Circular A-130 Appendix III].

To achieve this level of information security, the Web Services Employer agrees to institute the following procedures:

1. Conduct periodic assessments of risk, including the magnitude of harm that could result from the unauthorized access, use, disclosure, disruption, modification, or destruction of information and information systems that support the operations and assets of the DHS, SSA, and the Web Services Employer;

2. Develop policies and procedures that are based on risk assessments, cost-effectively reduce information security risks to an acceptable level, and ensure that information security is addressed throughout the life cycle of each organizational information system;

3. Implement subordinate plans for providing adequate information security for networks, facilities, information systems, or groups of information systems, as appropriate;

4. Conduct security awareness training to inform the Web Services Employer's personnel (including contractors and other users of information systems that support the operations and assets of the organization) of the information security risks associated with their activities and their responsibilities in complying with organizational policies and procedures designed to reduce these risks;

5. Develop periodic testing and evaluation of the effectiveness of information security policies, procedures, practices, and security controls to be performed with a frequency depending on risk, but no less than once per year;

6. Develop a process for planning, implementing, evaluating, and documenting remedial actions to address any deficiencies in the information security policies, procedures, and practices of the organization;

7. Implement procedures for detecting, reporting, and responding to security incidents;

8. Create plans and procedures to ensure continuity of operations for information systems that support the operations and assets of the organization;

9. In information-sharing environments, the information owner is responsible for establishing the rules for appropriate use and protection of the subject information and retains that responsibility even when the information is shared with or provided to other organizations [NIST SP 800-37].

10. DHS reserves the right to restrict Web Services calls from certain IP addresses.

11. DHS reserves the right to audit the Web Services Employer's application.

12. Web Services Employers agree to cooperate willingly with the DHS assessment of information security and privacy practices used by the company to develop and maintain the software.

C. DATA PROTECTION AND PRIVACY REQUIREMENTS

1. Web Services Employers must practice proper Internet security; this means using HTTP over SSL/TLS (also known as HTTPS) when accessing DHS information resources such as E-Verify [NIST SP 800-95]. Internet security practices like this are necessary because Simple Object Access Protocol (SOAP), which provides a basic messaging framework on which Web Services can be built, allows messages to be viewed or modified by attackers as messages traverse the Internet and is not independently designed with all the necessary security protocols for E-Verify use.

2. In accordance with DHS standards, the Web Services Employer agrees to maintain physical, electronic, and procedural safeguards to appropriately protect the information shared under this MOU

against loss, theft, misuse, unauthorized access, and improper disclosure, copying use, modification or deletion.

3. Any data transmission requiring encryption shall comply with the following standards:

- Products using FIPS 197 Advanced Encryption Standard (AES) algorithms with at least 256-bit encryption that has been validated under FIPS 140-2.
- NSA Type 2 or Type 1 encryption.

4. User ID Management (Set Standard): All information exchanged between the parties under this MOU will be done only through authorized Web Services Employer representatives identified above.

5. The Web Services Employer agrees to use the E-Verify browser instead of its own interface if it has not yet upgraded its interface to comply with the Federal Acquisition Regulation (FAR) system changes. In addition, Web Services Employers whose interfaces do not support the Form I-9 from 2/2/2009 or 8/7/2009 agree to use the E-Verify browser until the system upgrade is completed.

6. The Web Services Employer agrees to use the E-Verify browser instead of its own interface if it has not completed updates to its system to the satisfaction of DHS or its assignees within six months from the date DHS notifies the Web Services Employer of the system update. The Web Services Employer can resume use of its interface once it is up-to-date, unless the Web Services Employer has been suspended or terminated from continued use of the system.

D. COMMUNICATIONS

1. The Web Services Employer agrees to develop an electronic system that is not subject to any agreement or other requirement that would restrict access and use by an agency of the United States.

2. The Web Services Employer agrees to develop effective controls to ensure the integrity, accuracy and reliability of its electronic system.

3. The Web Services Employer agrees to develop an inspection and quality assurance program that regularly (at least once per year) evaluates the electronic system, and includes periodic checks of electronically stored information. The Web Services Employer agrees to share the results of its regular inspection and quality assurance program with DHS upon request.

4. The Web Services Employer agrees to develop an electronic system with the ability to produce legible copies of applicable notices, letters, and other written, photographic and graphic materials.

5. All information exchanged between the parties under this MOU will be in accordance with applicable laws, regulations, and policies, including but not limited to, information security guidelines of the sending party with respect to any information that is deemed Personally Identifiable Information (PII), including but not limited to the employee or applicant's Social Security number, alien number, date of birth, or other information that may be used to identify the individual.

6. Suspected and confirmed information security breaches must be reported to DHS according to Article V.C.1. Reporting such breaches does not relieve the Web Services Employer from further

requirements as directed by state and local law. The Web Services Employer is subject to applicable state laws regarding data protection and incident reporting in addition to the requirements herein.

E. SOFTWARE DEVELOPMENT RESTRICTIONS

1. DHS reserves the right to terminate the access of any software developer with or without notice who creates or uses an interface that does not comply with E-Verify procedures.

2. Employers are prohibited from Web Services Software development unless they also create cases in E-Verify to verify their new hires' work authorization. Those pursuing software development without intending to use E-Verify are not eligible to receive an ICA. At this time, E-Verify does not permit Web Services software development without also being a Web Services Employer or Web Services E-Verify Employer Agent.

F. PENALTIES

1. The Web Services Employer agrees that any failure on its part to comply with the terms of the MOU may result in account suspension, termination, or other adverse action.

2. DHS is not liable for any financial losses to Web Services Employer, its clients, or any other party as a result of account suspension or termination.

ARTICLE VI
MODIFICATION AND TERMINATION

A. MODIFICATION

1. This MOU is effective upon the signature of all parties and shall continue in effect for as long as the SSA and DHS operates the E-Verify program unless modified in writing by the mutual consent of all parties.

2. Any and all E-Verify system enhancements by DHS or SSA, including but not limited to E-Verify checking against additional data sources and instituting new verification policies or procedures, will be covered under this MOU and will not cause the need for a supplemental MOU that outlines these changes.

B. TERMINATION

1. The Web Services Employer may terminate this MOU and its participation in E-Verify at any time upon 30 days prior written notice to the other parties.

2. Notwithstanding Article V, part A of this MOU, DHS may terminate this MOU, and thereby the Web Services Employer's participation in E-Verify, with or without notice at any time if deemed necessary because of the requirements of law or policy, or upon a determination by SSA or DHS that there has been a breach of system integrity or security by the Web Services Employer, or a failure on the part of either party to comply with established E-Verify procedures and/or legal requirements. The Web Services Employer understands that if it is a Federal contractor, termination of this MOU by any party

for any reason may negatively affect the performance of its contractual responsibilities. Similarly, the Web Services Employer understands that if it is in a state where E-Verify is mandatory, termination of this by any party MOU may negatively affect the Web Services Employer's business.

3. A Web Services Employer that is a Federal contractor may terminate this MOU when the Federal contract that requires its participation in E-Verify is terminated or completed. In such cases, the Web Services Employer must provide written notice to DHS. If the Web Services Employer fails to provide such notice, then that Web Services Employer will remain an E-Verify participant, will remain bound by the terms of this MOU that apply to non-Federal contractor participants, and will be required to use the E-Verify procedures to verify the employment eligibility of all newly hired employees.

4. The Web Services Employer agrees that E-Verify is not liable for any losses, financial or otherwise, if the Web Services Employer or the Employer is terminated from E-Verify.

ARTICLE VII
PARTIES

A. Some or all SSA and DHS responsibilities under this MOU may be performed by contractor(s), and SSA and DHS may adjust verification responsibilities between each other as necessary. By separate agreement with DHS, SSA has agreed to perform its responsibilities as described in this MOU.

B. Nothing in this MOU is intended, or should be construed, to create any right or benefit, substantive or procedural, enforceable at law by any third party against the United States, its agencies, officers, or employees, or against the Web Services Employer, its agents, officers, or employees.

C. The Web Services Employer may not assign, directly or indirectly, whether by operation of law, change of control or merger, all or any part of its rights or obligations under this MOU without the prior written consent of DHS, which consent shall not be unreasonably withheld or delayed. Any attempt to sublicense, assign, or transfer any of the rights, duties, or obligations herein is void.

D. Each party shall be solely responsible for defending any claim or action against it arising out of or related to E-Verify or this MOU, whether civil or criminal, and for any liability wherefrom, including (but not limited to) any dispute between the Web Services Employer and any other person or entity regarding the applicability of Section 403(d) of IIRIRA to any action taken or allegedly taken by the Web Services Employer.

E. The Web Services Employer understands that its participation in E-Verify is not confidential information and may be disclosed as authorized or required by law and DHS or SSA policy, including but not limited to, Congressional oversight, E-Verify publicity and media inquiries, determinations of compliance with Federal contractual requirements, and responses to inquiries under the Freedom of Information Act (FOIA).

F. The individuals whose signatures appear below represent that they are authorized to enter into this MOU on behalf of the Web Services Employer and DHS respectively. The Web Services Employer understands that any inaccurate statement, representation, data or other information provided to DHS

may subject the Web Services Employer, its subcontractors, its employees, or its representatives to: (1) prosecution for false statements pursuant to 18 U.S.C. 1001 and/or; (2) immediate termination of its MOU and/or; (3) possible debarment or suspension.

G. The foregoing constitutes the full agreement on this subject between DHS and the Web Services Employer.

Approved by:

Web Services Employer	
AECOM	
Name (Please Type or Print) Gilda Malek	Title
Signature Electronically Signed	Date 10/11/2018
Department of Homeland Security – Verification Division	
Name (Please Type or Print) USCIS Verification Division	Title
Signature Electronically Signed	Date 10/11/2018

Information Required for the E-Verify Program **Information relating to your Company:**	
Company Name	AECOM
Company Facility Address	1999 Avenue of the Stars, Suite 2600 Los Angeles, CA 90067
Company Alternate Address	
County or Parish	LOS ANGELES
Employer Identification Number	611088522
North American Industry Classification Systems Code	236
Parent Company	
Number of Employees	10,000 and over
Number of Sites Verified for	347

E-Verify

Company ID Number: 1349701

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State:

ALASKA	1 site(s)
ALABAMA	5 site(s)
ARIZONA	10 site(s)
CALIFORNIA	34 site(s)
COLORADO	12 site(s)
CONNECTICUT	5 site(s)
DIST OF COL	4 site(s)
DELAWARE	2 site(s)
FLORIDA	28 site(s)
GEORGIA	6 site(s)
HAWAII	2 site(s)
IOWA	3 site(s)
IDAHO	2 site(s)
ILLINOIS	5 site(s)
INDIANA	10 site(s)
KANSAS	3 site(s)
KENTUCKY	5 site(s)
LOUISIANA	4 site(s)
MASSACHUSETTS	5 site(s)
MARYLAND	12 site(s)
MAINE	5 site(s)
MICHIGAN	8 site(s)
MINNESOTA	2 site(s)
MISSOURI	3 site(s)
MISSISSIPPI	1 site(s)
MONTANA	1 site(s)
NORTH CAROLINA	7 site(s)
NORTH DAKOTA	1 site(s)
NEBRASKA	1 site(s)
NEW HAMPSHIRE	1 site(s)
NEW JERSEY	13 site(s)
NEW MEXICO	3 site(s)
NEVADA	6 site(s)
NEW YORK	51 site(s)
OHIO	7 site(s)
OREGON	1 site(s)
PENNSYLVANIA	14 site(s)
RHODE ISLAND	1 site(s)
SOUTH CAROLINA	5 site(s)
TENNESSEE	4 site(s)
TEXAS	29 site(s)
UTAH	2 site(s)
VIRGINIA	13 site(s)
VIRGIN ISLANDS	1 site(s)
WASHINGTON	2 site(s)
WISCONSIN	5 site(s)
WEST VIRGINIA	2 site(s)

E-Verify

Company ID Number: 1349701

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name	JoAnn Jett
Phone Number	(410) 891 - 9462
Fax Number	
Email Address	joann.jett@aecom.com

Name	Christina Herinckx
Phone Number	(720) 244 - 4021
Fax Number	
Email Address	tina.herinckx@aecom.com

E-Verify

Company ID Number: 1349701

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SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by Ronald Cavalieri, PE, BCEE, Associate Vice President/Authorized Signatory
(Print individual's name and title)

for AECOM Technical Services, Inc.
(Print name of entity submitting sworn statement)

whose business address is 4415 Metro Parkway, Suite 404, Fort Myers, Florida 33916

and (if applicable) its Federal Employer Identification Number (FEIN) is 95-2661922
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: N/A).

2. I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

X The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

R. Cavalieri 2/22/2023

(Signature) **Ronald Cavalieri, PE, BCEE** (Date)

STATE OF **Florida**

COUNTY OF **Lee**

The foregoing instrument was acknowledged before me by means of ■ physical presence or □ online notarization, this 22nd day of February, 2023 by Ronald Cavalieri as Assoc VP/Signatory of Aecom Technical Services, Inc. - Private Corp company organized under the laws of the State of California, on behalf of the company, who is personally known to me or has produced N/a (Personally known) as identification.

Cherie C. Wolter

Notary Public

Cherie C. Wolter

Name typed, printed or stamped

My Commission Expires: Nov. 16, 2024

CHERIE C. WOLTER
Notary Public - State of Florida
Commission # HH 061153
My Comm. Expires Nov 16, 2024
Bonded through National Notary Assn.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: AECOM Technical Services, Inc.

Reference Entity: Town of Davie

Reference Contact Person: Renuka Mohammed, Utilities Director

Reference Address: 6591 Orange Drive, Town of Davie, FL 33314

Reference Email Address: Renuka_Mohammed@davie-fl.gov

Reference Phone No.: (954) 327-3742

Project Name: New Water Treatment and WRF Progressive Design-Build

Project Location: 3790 Davie Boulevard, Davie, FL 33312

Consultant Project Manager: Brian Stitt, PEng, CBC, DBIA

Contract Amount: $112M

Date Project Commenced: 2004

Date of Final Completion: August 2014

Description of Work Performed: AECOM provided a progressive design-build services for the Town of Davie in to meet demands for both potable and wastewater services. At the heart of the project are a new 6-mgd water treatment plant (expandable to 12-mgd) and a 3.5-mgd (expandable to 7-mgd) water reclamation plant. The reclamation plant utilized membrane biological reactors (MBR) for compact footprint and higher effluent quality effluent. UV is used as the primary disinfection.

Development of a sustainable brackish water supply and DIW of process waste streams was a crucial component of the success of the project. Serving as the Engineer of Record, AECOM provided direct procurement and oversight of permitting, well drilling construction, operation and testing. A Floridan Aquifer exploratory-production well characterized the site geology and hydrogeology, which was then modeled using a calibrated density-dependent groundwater flow model to facilitate well field design for managing the long-term changes of water quality in the wellfield. Following 10 years of operation, the wellfield has remained productive and free of salinity degradation. AECOM also designed, permitted and oversaw the construction of this Class I Industrial Injection Well System for two 11.4-mgd Class I injection wells with dual-zone monitoring wells.

As the prime contractor, AECOM provided schedule, safety, and financial control of 16 trade subcontractors and 23 vendors. More than 20 separate permits were obtained to enable the construction and operation of the new facilities, including a consumptive use permit, UIC permits, site plan permits and a reuse application that meets the equivalent of Title 22 Reuse standards. AECOM was also responsible for the training of Davie's operations staff, and for the provision of O&M manuals and operating procedures.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: AECOM Technical Services, Inc.

Reference Entity: City of Hialeah

Reference Contact Person: Armando Vidal, Utility Director

Reference Address: 501 Palm Avenue, Hialeah, FL 33010

Reference Email Address: avidal@hialeahfl.gov

Reference Phone No.: (305) 883-5800

Project Name: Hialeah RO WTP Pilot Testing, Design and Start-up Services

Project Location: Hialeah, FL

Consultant Project Manager: Bill Snow, PE

Contract Amount: $55.5M

Date Project Commenced: 2011

Date of Final Completion: 2017

Description of Work Performed: AECOM designed an innovative, energy- efficient treatment plant following particularly intensive testing, planning and design to develop a desalination treatment facility for a wide range of current and future raw water salinity. In particular, AECOM's evaluations led to a brackish water treatment system that achieved optimal balance between life cycle cost and finished water quality. Highlights of AECOM's design include membrane skids that easily accommodate modifications to handle increased salinity due anticipated degradation of the Upper Floridan Aquifer supply, LE 440i membranes to minimize energy consumption, and biofilters rather than chemical scrubbers to reduce carbon footprint and avoid the use of three truckloads of chemicals each month.

To increase reliability, the plant made use of robust materials typically seen in more demanding seawater RO facilities. AECOM's architects designed the facility with a modern tropical theme in keeping with the relaxed, contemporary feel of the city itself. Sustainability was a key city concern, so AECOM's design for the main treatment building was geared toward achieving LEED Silver certification.

AECOM's contract also included the detailed (final) design and construction at risk of the project. The scope of services included design of the pretreatment system, chemical pre- and post-treatment systems, degasifier system and biofilter scrubber system, membrane cleaning system, process building including a membrane room, and chemical treatment rooms with bulk chemical storage. The design also included two 5-mgd storage tanks and a high service pump station.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: AECOM Technical Services, Inc.

Reference Entity: City of Oldsmar

Reference Contact Person: Johna Jahn, PE, Assistant Public Works Director

Reference Address: 100 State St West, Oldsmar, FL 34677

Reference Email Address: jjahn@myoldsmar.com

Reference Phone No.: (813) 749-1233

Project Name: Oldsmar Brackish Water Supply and Treatment Facilities Planning and Construction

Project Location: Oldsmar, FL

Consultant Project Manager: Tim Curran, PE

Contract Amount: $17M

Date Project Commenced: 1996

Date of Final Completion: 2013

Description of Work Performed: AECOM was hired by the City in 1996 to assist them with this ambitious program. Phase I included a preliminary feasibility study that reviewed demand, water supply options, and regulations; evaluated water quality, treatment, and potential costs; assessed project feasibility; and developed an implementation plan. Existing data, and site specific raw water quantity and quality data collected from a test well, supported the cost effectiveness of a 2-mgd annual average brackish water wellfield with a low pressure RO water treatment plant. The Phase I study concluded that the project was technically and economically feasible.

Phase II included a wellfield siting analysis, development of a field testing program, design and construction of two pilot production wells (and four monitor wells) to evaluate the capacity and quality of two water supply aquifers, a pilot treatment study using the wells to evaluate treatability and concentrate characteristics, and preliminary engineering of the wellfield, transmission pipelines, treatment, and concentrate disposal. Subsequent analysis and successful water use and concentrate disposal permitting confirmed that the project remained feasible.

Phase III included the preliminary and final design of 12 brackish water wells; 10,500 ft of 8 – 24-inch raw water transmission main; a 3.2-mgd maximum day RO water treatment plant; 8,250 ft of 8-inch concentrate disposal pipeline; and a 1.2-mgd DIW. The project was designed and constructed using four separate construction contracts: 1) production wells, 2) RO process equipment, 3) WTP building, site, pipelines, and other equipment, and 4) the DIW.

Phase IV was the construction of the new facilities.

Acknowledgment of Addendum #1

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Hon. Mike Moran, Sarasota County
Hon. Elton A. Langford, DeSoto County
Hon. Bill Truex, Charlotte County
Hon. George Kruse, Manatee County

Mike Coates, P.G., Executive Director

Request for Statements of Qualifications – Professional Services
for the
Peace River Brackish Groundwater Facility Project

Addendum 1

March 8, 2023

Responses to Question:

1. Question: After review of the Conflicts of Interest section in the Sample Agreement, the Consultant would like to clarify that it currently does work for the Authority as a subconsultant on other projects, and plans to continue pursuing other projects as a Prime Consultant for the Authority. In order to comply with the requirements of this section, the Consultant respectfully requests that the Authority please remove the last sentence from Section 5.14 "No Conflicts of Interest" which states that Consultant cannot be a prime consultant or subconsultant on other projects for the Authority during the term of this Agreement or for 90 days after the Agreement terminates. The Consultant sees no reason as to why it should be precluded from serving the Authority on multiple ongoing projects, so long as the Authority continues to put these projects out for any firms to bid on?

Response: The following sentence will be deleted from Section 5.14 of the Agreement, "Consultant will not participate as a prime consultant or a subconsultant on projects for the Authority during the term of this Agreement and for 90 days after this Agreement ends." The first sentence of Section 5.14 will remain in place.

2. Question: Would the Authority please remove any mention of a Fiduciary Duty or Fiduciary Relationship, or our acceptance of a relationship of "trust and confidence"? A licensed Design Professional cannot be a fiduciary to its client as it cannot be required to put a client's interests above the interests and safety of the public. Additionally, accepting this type of relationship would require the Consultant to accept a standard of care that exceeds the industry Standard of Care provided by licensed Design Professionals performing similar services in the area where the Project is located.

Response: Section 5.12, of the Agreement entitled Fiduciary Relationship will be removed and replaced with the following: "**5.12 Standard of Care**. Consultant shall perform the Services in a professional manner in accordance with applicable professional standards consistent with that level of care and skill ordinarily exercised by other competent professionals with expertise in the type of services required in this Agreement practicing under similar conditions at the same time and locality of the Project.

3. Question: As currently worded, we believe that the indemnity provision Section 12 on page 9 of the Sample Agreement for Professional Services is not in compliance with FL Statute 725.08. Will you agree to reword the indemnification to conform with the statute, and include the following edits in red?

"Consultant shall indemnify and hold harmless the Authority, its officers, and employees, from and against any and all liabilities, damages, losses and costs (including but not limited to reasonable attorney fees) ~~arising out of or~~ to the extent caused by the negligence, recklessness or intentionally wrongful conduct of Consultant or any of ~~the~~ its Subconsultants or any other person or organization employed by or utilized by Consultant in the performance of Services under this Agreement. This indemnification shall also include all liability, damages, losses, and costs (including but not limited to reasonable attorney fees) arising out of or to the extent caused by any infringement of patents or copyrights incident to providing the Services required hereunder."

Response: Section 12, entitled Indemnification, will be removed and replaced with the following: "**Indemnification**. Consultant shall indemnify and hold harmless the Authority, and its officers and employees, from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the Consultant and other persons employed or utilized by the Consultant in the performance of the contract."

4. Question: Respondent requests the Authority's consideration of one change to the standard agreement language. Please revise Section "5.12 Fiduciary Relationship" to read as follows:

"5.12 Relationship. Consultant shall not knowingly take any action that would conflict with the interest of the Authority. Consultant shall deal with Authority in a fair and trustworthy manner. "

Reason for this request is that the implication of a "Fiduciary Relationship" could impose obligations that go beyond the standard of care and could create a conflict of interest with an engineer's duty of safety to the general public.

Response: See response to Question 2 above.

5. Question: Can we move the organizational chart to the beginning of Section 2, instead of at the end of Section 3?

Response: Respondents should provide all information requested in the Information Package issued by the Authority on February 10, 2023. That document requires Respondents to provide an Organizational Chart within Section 3 of their response.

9415 Town Center Pkwy ♦ Lakewood Ranch, FL 34202 ♦ Tel (941) 316-1776 ♦ Fax (941) 316-1772 ♦ regionalwater.org



About AECOM

AECOM is the world's trusted infrastructure consulting firm, delivering professional services throughout the project lifecycle – from planning, design and engineering to program and construction management. On projects spanning transportation, buildings, water, new energy and the environment, our public- and private-sector clients trust us to solve their most complex challenges. Our teams are driven by a common purpose to deliver a better world through our unrivaled technical expertise and innovation, a culture of equity, diversity and inclusion, and a commitment to environmental, social and governance priorities. AECOM is a Fortune 500 firm and its Professional Services business had revenue of $13.3 billion in fiscal year 2021. See how we are delivering sustainable legacies for generations to come at aecom.com and @AECOM.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY







MARCH 13, 2023

STATEMENT OF QUALIFICATIONS FOR

PROFESSIONAL SERVICES FOR THE PEACE RIVER BRACKISH GROUNDWATER FACILITY PROJECT

BLACK & VEATCH

TABLE OF CONTENTS

TABLE OF CONTENTS I

COVER LETTER 1

SECTION 0 BACKGROUND 2

SECTION 1 PROJECT MANAGER & MANAGEMENT 4

Project Management
Qualifications & Experience 4
Approach to Management & Execution 4

SECTION 2 CONSULTANT TEAM'S ENGINEERING EXPERIENCE 7

Resumes of Key Personnel 7
Engineering Project Experience 10

SECTION 3 CONSULTANT TEAM'S HYDROGEOLOGIC EXPERIENCE 16

Resumes of Key Personnel 16
Organization Chart 18
Hydrogeological Project Experience 19

SECTION 4 PRELIMINARY PROJECT UNDERSTANDING, APPROACH, AND SCHEDULE 24

1 Understanding & Approach to Planning, Design, Permitting & Construction 24
2 Hydrogeology and Groundwater Quality of SW Florida 29
3 Approach – Design, Oversight, Well Construction & Testing Program 31
4 Understanding of SWFWMD WUP Rule Criteria & Policies 36
5 Understanding & Approach to SCADA 38
6 Opinion of Probable Cost 39

SECTION 5 WELL CONSTRUCTION CONTRACTOR APPROACH 40

Minimum Qualifications for Well Construction Contractor 40
Contracting & Coordination with the Well Construction Contractor 40

SECTION 6 REQUIRED FORMS 41

BLACK & VEATCH CORPORATION
3405 W. Dr. M.L. King Jr. Boulevard, Suite 125
Tampa, FL 33607
P +1 813-207-7910 | E WestfallAA@bv.com

March 13, 2023

Professional Services Evaluation Committee
Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway, Lakewood Ranch, Florida 34202

Submitted electronically via email to procurement@regionalwater.org

RE: SOQ for the Peace River Brackish Groundwater Facility Project

Dear members of the Professional Services Evaluation Committee:

Black & Veatch is pleased to submit this Statement of Qualifications for the Authority's Brackish Groundwater Facility project. This important project will provide the Authority an additional option for meeting the growing water demands and an opportunity to advance the resilience of its water supply system by adding a new, drought-resistant water supply source. The Black & Veatch team provides the Authority with numerous benefits to ensure the successful delivery of the project:

- **Optimized integration with the Authority's existing WTP.** Black & Veatch has completed numerous design and construction projects at the Peace River Facility. Through our deep knowledge of the facilities and process, we can seamlessly integrate the Reverse Osmosis (RO) treated water with the Peace River Facility water treatment plant (WTP), including identifying cost-saving opportunities to leverage commonality of facilities.
- **Comprehensive technical leadership and responsibility.** Supplementing our industry-leading water treatment expertise, Black & Veatch has deep national and local hydrogeologic expertise, with 10 Florida-based hydrogeological staff led by our local Hydrogeology National Practice Leader Ed Rectenwald. This team has extensive knowledge of Southwest Florida hydrogeology. While partnering with RESPEC and ASRus provides continuity from prior projects, Black & Veatch's ability to lead and oversee both the hydrogeologic and treatment scopes provides a single point of responsibility.
- **Capacity to deliver the project on schedule.** Black & Veatch is committed to delivering this project on schedule, and we have the resources to accomplish it — with more than 100 local staff, 1,000+ in Florida, and over 10,000 firmwide. Our team on the west coast of Florida has grown by over 40 professionals over the last three years, providing us the local depth to successfully deliver projects while many in the industry are at capacity. Our team includes staff that have worked on seven RO plants in Florida and more than 100 globally.

We appreciate the Authority's consideration and hope to have the opportunity to partner with you in delivering your Brackish Groundwater Facility Project.

Very truly yours,

Black & Veatch Corporation

Andy Westfall, PE
Client Services Director

Mark Martin, PE
Project Manager

0 Background

1. Legal name, address, phone number of Consultant and email of primary contact.

- **Black & Veatch Corporation:** 3405 W. Dr. M.L. King Jr. Boulevard, Suite 125, Tampa, FL 33607
- **Primary Contact:** Mark Martin, PE | +1 239-703-8294 | MartinME@bv.com

2. Principal office locations of submitting Consultant and subconsultants.

- **Prime: Black & Veatch** | 3405 W. Dr. M.L. King Jr. Boulevard, Suite 125, Tampa, FL 33607
- **Subconsultants:**
  - RESPEC | 2550 Green Forest Lane, Suite 101, Lutz, FL 33558
  - ASRus | 13329 N. Armenia Avenue, Tampa, FL 33613
  - Hyatt Surveying | 11007 8th Avenue East, Bradenton, FL 34212
  - Earth Balance | 2570 Commerce Pkwy., North Port, FL 34289
  - Terracon | 8260 Vico Ct., Unit B, Sarasota, FL 34240

3. Legal form of company. Black & Veatch Corporation is a corporation.

4. Copy of Florida Professional Licenses as applicable (business and/or individual).

Business and individual licenses for key personnel are provided on the following page.

5. Disclosure of whether Consultant or partner/subconsultants currently represents Charlotte, DeSoto, Manatee, or Sarasota counties, or the City of North Port (Customers), in any way.

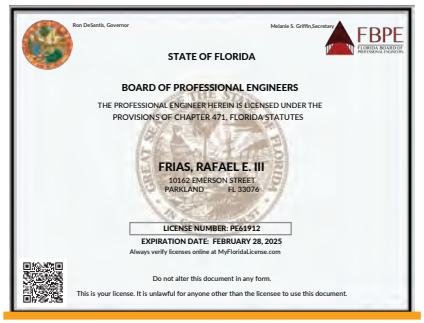
Black & Veatch previously or currently represents the following Authority customers:

- Sarasota County – Developing a Systemwide Water Supply Wellfield Assessment.
- Manatee County – Several completed and ongoing projects through the County's Utility Engineering Contract, including WTP Chemical Feed System Evaluations.
- North Port – Three current assignments under Professional Engineering Services Contract, including Water Master Plan and Water Supply Facilities 10-Year Work Plan Updates.
- DeSoto County – Injection Well System Feasibility Evaluation (project is completed).
- Charlotte County – Underground Injection Control (UIC) Well Mechanical Integrity Testing (project is complete).

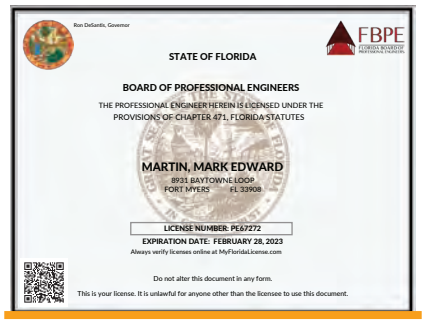
ASRus has worked on hydrogeologic (mostly UIC well) projects for Manatee, Sarasota, and Charlotte Counties and the City of North Port, most of which has been as a subconsultant. RESPEC is currently a contracted with Sarasota County as part of their "Groundwater Management Services" Library.

6. Disclosure of any litigation Consultant or partner/subconsultants is involved in against any of the Authority Customers (listed above), either directly or retained for testimony and expertise on behalf of any other entity in litigation against the Authority or any of its Customers.

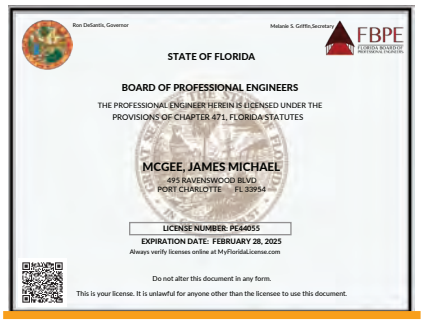
Black & Veatch, ASRus, and RESPEC are not involved in any litigation against the Authority or any of its Customers.


Ron DeSantis, Governor
Melanie S. Griffin, Secretary
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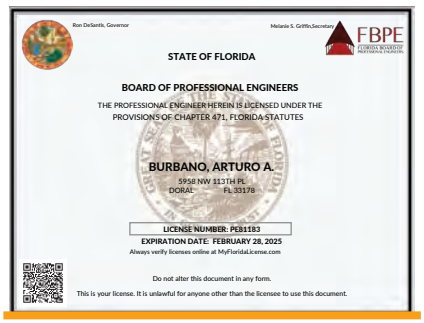
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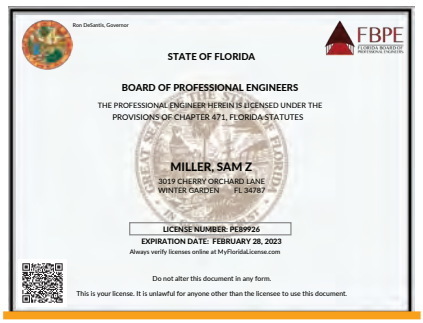
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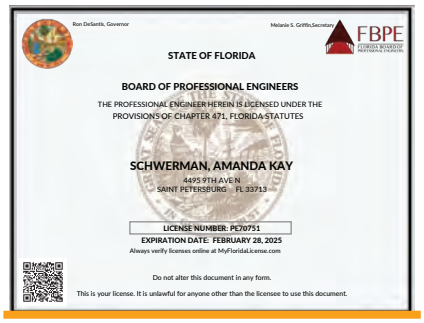
Arturo Burbano, PE


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ECK, RYAN CHRISTIAN
5723 BRIDGETON CT
PALM HARBOR FL 34685
LICENSE NUMBER: PE82533
EXPIRATION DATE: FEBRUARY 28, 2025

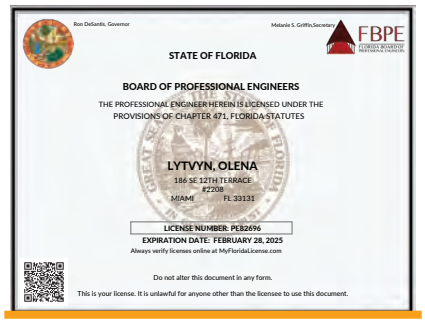
Ryan Eck, PE


Ron DeSantis, Governor
FBPE
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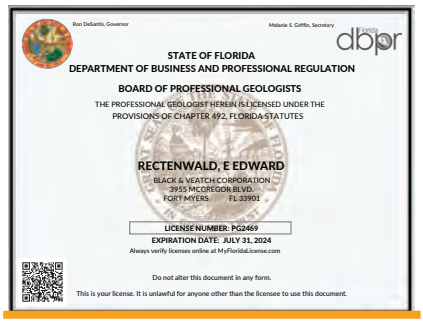
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Olena Lytvyn, PE


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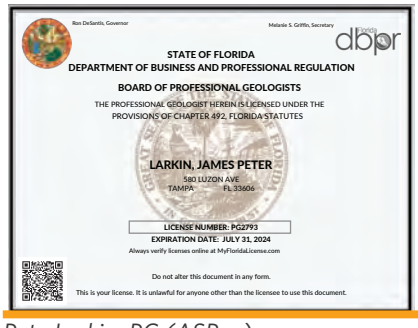
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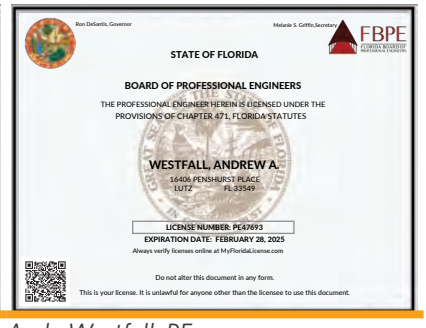
David Brown, PG (RESPEC)


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Anamaria Sarmiento, PG


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Pete Larkin, PG (ASRus)


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Andy Westfall, PE

1 Project Manager & Management

Our clients benefit from our project management approach centered on collaboration, communication, and having a clear understanding of their needs.



Mark Martin and Mike McGee have been working together to deliver successful Authority projects since 2013.

Project Management Qualifications & Experience

As **Project Manager, Mark Martin** will serve as the Authority's primary point of contact for this project. Mark is a hands-on project manager who excels at managing multi-disciplinary teams. He will ensure that the appropriate resources are assigned to maximize value to the Authority while also tracking and managing schedule and budget.

As **Engineering Manager, Mike McGee** will leverage his 30 years of experience and teamwork approach to provide the weekly leadership and oversight of the technical team of engineers and hydrogeologists assigned to the project.

Both Mark and Mike have worked extensively with the Authority over the past decade. Brief resumes highlighting their qualifications and experience are provided at the end of this section.

Approach to Management & Execution

Our approach to project management includes leveraging consistent local professionals — who are familiar with your facilities, staff, procedures, and standards — to enhance the efficiency of our work and to ensure that our services meet your needs. A few cornerstones of our approach include the following:

- Maintaining a commitment to responsive client service and deliver projects on time and on budget. This includes regular meetings with your designated project manager to keep you apprised of progress to ensure that all expectations, regarding quality, schedule, and budget are being met.
- Leading and executing with local management and a core group of in-house local team members, while also providing the services of our complete Florida-based team.
- Leveraging our technical leadership in water treatment and hydrogeology to meet any challenge while providing cost-effective and efficient planning and design services.
- Providing resources to meet an aggressive schedule that complies with the Authority's need to meet the funding deadlines for the project.
- Partnering with hydrogeological subconsultants for continuity with previous Authority projects, while having the comprehensive in-house expertise to lead and take responsibility for all aspects of the project.

Projects will be managed by leveraging industry-proven project control tools.

Our clients receive successful, quality projects as a result of Black & Veatch's complete library of state-of-the-art project control tools. Our project controls approach includes the following:

SCHEDULE CONTROL | We work with clients during the scope development phase of each assignment to establish a schedule that will meet their established goals. Schedules may be developed in **Primavera** or **Microsoft Project.** We will provide your project managers with updated project schedules at each project milestone and other times as determined to be beneficial.

CONSTRUCTION COST CONTROL | Black & Veatch is a leading contractor in the water and wastewater industry, with half of the firm's project volume from design-build projects. The resulting expertise and available estimating tools (i.e., **Timberline**) and resources enable us to develop accurate construction cost estimates and value engineering reviews. We utilize trend reporting to continually communicate updates on the construction estimate.

CONSTRUCTABILITY | Our experience as a contractor also provides the expertise and resources to develop sound designs that can be constructed efficiently from the perspective of both cost and schedule. By thoroughly addressing construction sequencing and maintenance of operations during design, our clients benefit by avoiding costly change orders and delays during construction.

BUDGET CONTROL | Our project managers have access to an array of tools to facilitate tracking and management of project costs. For example, **EcoSys** is an earned-value management-based system that enables the establishment of control accounts so that expenditures can be tracked and managed by both task and work group. We leverage Power BI to pull data from multiple platforms, providing project teams with insightful dashboards that present vital project status information on which to make management decisions during project execution.

DOCUMENT CONTROL | Black & Veatch utilizes the **ProjectWise** document management system, which provides a secure environment for storage, collaboration and retrieval of project drawings, specifications, reports, and data. This system provides our clients with increased cybersecurity, avoids document loss, and supports efficient production. Our teams routinely set up client-facing document sharing facilities using ProjectWise or Microsoft Teams.

QUALITY CONTROL | Black & Veatch employs a strict QA/QC program in alignment with the key principles of **ISO 9000.** QA/QC reviews will be conducted at key milestones, which support schedule and budget success through early identification of developing issues and avoiding rework.

SAFETY | Black & Veatch has an extremely strong safety culture. Prior to any site visits, the team prepares and reviews the project-specific health and safety plan to ensure that all participants are aware of the hazards and have proper personal protection equipment (PPE) for the tasks. More robust or higher-risk activities require more in-depth safety planning and internal H&S management approvals. At the beginning of every meeting, we open with a "Safety Moment," which has proven that safety is always on our minds.

Our **project team organization chart included in Section 3** shows the comprehensive resources and structure of the team we have proposed to execute this project. In addition to Black & Veatch staff, we have included the following **subconsultants** to our team:

- RESPEC — Hydrogeology for Brackish Water Supply
- ASRus — Hydrogeology for UIC Disposal Well
- Hyatt Surveying — Surveying and Underground Utility Locations
- Earth Balance — Environmental (wetlands/habitat)
- Terracon — Geotechnical



MARK **MARTIN**, PE

Project Manager

Black & Veatch (Fort Myers, FL) | BS, Civil Engineering | 35 yrs exp | PE – FL. Mark has over 35 years of experience in a variety of engineering projects, including water and wastewater treatment plants, water supply wellfields, pumping stations, and pipelines. His involvement in these projects has included feasibility studies, facility design, construction services and facility startup. As a Senior Project Manager he has managed large engineering design teams to meet scope, budget and schedule on his projects.

Mark's relationship with the Authority began in 2013 on the Peace River Facility 1991 Rebuild project. He served as Engineering Manager during design of that successful project and transitioned to the on-site construction inspector. He became intimately familiar with the Peace River Facility and built good relationships with Authority staff during this time. Mark is currently leading the Fort Myers Wellfield Expansion and WTP RO Treatment Improvements projects. The wellfield expansion includes testing, development, design, permitting and construction of 11 new raw water supply wells. The new wells provide a brackish groundwater supply with a capacity of 5.5 million gallons per day (MGD) and over 40,000 linear feet of raw water pipelines. The WTP RO Treatment Improvements includes evaluation, preliminary design, detailed design, construction and startup of a new 3-MGD RO treatment train at the existing 12-MGD facility. Relevant project experience includes:

- Peace River MRWSA, FL | Peace River Facility 1991 Rebuild
- City of Fort Myers, FL | Water Use Permit Renewal
- City of Fort Myers, FL | WTP RO Treatment Expansion and Improvements



MIKE **McGEE**, PE

Engineering Manager

Black & Veatch (Coral Gables, FL) | MS, Civil Eng.; BS, Mech. Eng. | 32 yrs exp | PE – FL. Over three decades of experience in process design, permitting, and construction phase engineering services of water treatment plants, water distribution and transmission systems, reclaimed water distribution systems, wastewater conveyance, and pumping stations and storage facilities. Mike brings to the project extensive engineering and management experience, deep knowledge of the Authority and its facilities, and a collaborative, teamwork approach.

As a Senior Engineering Manager, Mike has led many large treatment and conveyance projects involving large multi-disciplined teams. For the past 12 years, Mike has participated in multiple Peace River WTP projects and facility improvements such as the 1991 Rebuild and Rerating of Plant 1, the Concrete and Coatings Rehabilitation of Plant 2, the 66 x 48-inch PRF Raw Water Interconnect, and the Train 5 & 6 and 7 & 8 Rehabilitation Improvements. Recent projects include:

- Peace River MRWSA , FL | Train 5 & 6 and Train 7 & 8 Rehabilitation Improvements
- City of Fort Myers, FL | WTP RO Treatment Expansion and Improvements
- City of Fort Myers, FL | Brackish Wellfield/Raw Water Transmission Main Expansion

2 Consultant Team's Engineering Experience

Resumes of Key Personnel



Jay DeCarolis, PE

LEAD WATER TREATMENT PROCESS

Black & Veatch (Phoenix, AZ) | MS, Envir. Eng.; BEng, Envir. Eng. | 25 yrs exp | PE – CA; CA Grade I WWTP Operator. Jay specializes in process evaluation and design of advanced water treatment systems, including RO. He has been involved with the implementation of a many of bench, pilot, feasibility, and design projects related to the application of advanced treatment technologies and has worked on numerous local RO projects including Venice, Tampa Bay Water, Fort Myers, and JEA. He has actively operated advanced treatment systems and currently holds a Grade I Certified Operator License. Jay also has experience with testing and monitoring, water quality (including constituents of emerging concern), regulatory aspects, and public outreach related to the use of advanced treatment technologies for indirect potable reuse (IPR) via surface water augmentation. Jay's technical acumen provides the Authority with deliverables that result in confident decisions, successful construction tasks, and a high-functioning system. Jay is presenting on treatment technologies for potable reuse applications at the FSAWWA Region X Operator CEU in March 2023.



Vasu Veerapaneni, PhD, PE

DESALINATION SPECIALIST

Black & Veatch (Overland Park, KS) | PhD, Envir. Eng.; MS, Environmental Eng.; BS, Civil Eng. | 36 yrs exp | PE – KS. Dr. Veerapaneni leads Black & Veatch's global process group for water treatment and is a globally-recognized expert in membrane treatment and brings experience in all aspects of delivering desalination plants globally. Vasu has worked on every aspect of the treatment processes, including studies, process evaluation, pilot testing, design, startup and operational assistance, and financial viability evaluations. He has worked on RO plants globally with salinity ranging from 800 - 50,000 milligrams per liter (mg/L) and capacities ranging from 1 - 100 MGD. In Florida, he has worked on projects for the Cities of Fort Myers, Dunedin, Tampa Bay Water, Venice, and Fort Myers. Projects outside of Florida include Santa Monica, CA (8 MGD); Geneval, IL (6 MGD); O'Fallon, MO; Perris II; Morro Bay; and Soquel Creek. He has also been involved in the evaluation of emerging technologies for treatment of high saline water sources, including RO concentrate. Vasu brings his industry-recognized expertise and lessons learned from 30 years of global experience to deliver exceptional technical solutions to the Authority on this project.



Arturo Burbano, PhD, PE, PMP, BCEE

TECHNICAL ADVISOR - WATER TREATMENT

Black & Veatch (Coral Gables, FL) | MBA; PhD, Envir. Eng.; MS, Industrial Eng.; BS/MS, Chemical Eng. | 31 yrs exp | PE – FL, CA, NV; PMP; BCEE. Dr. Burbano is a Water Treatment Technology Business Line Leader and project director with 31 years of experience in the water industry, including water and wastewater. He has served as an Adjunct Professor of Water/Wastewater Treatment Design at the University of Southern California and the Florida International University. Dr. Burbano is a process expert with substantial experience in technologies such as enhanced coagulation, rapid clarification (ACTIFLO®), GAC adsorption, ion exchange, lime softening, disinfection (ozone/UV/chlorine/chloramines/chlorine dioxide and DBP control), low- and high-pressure membrane applications (microfiltration, ultrafiltration, nanofiltration and RO), brine treatment, and advanced oxidation processes. We will leverage Dr. Burbano's expertise to support quality control and technical consultation to the team in the field of Water Treatment.



Ryan Eck, PE

RO WTP DESIGN

Black & Veatch (Tampa, FL) | BS, Civil Engineering | 12 yrs exp | PE – FL. Ryan is an Engineering Manager specializing in designing WTPs, particularly those employing RO treatment processes. He has extensive experience operating RO pilot treatment systems, including project for Venice, Dunedin, and Tampa Bay Water, and he is currently designing RO process upgrades for the Fort Myers and Venice Water Treatment Plants. He has also participated in research investigating fouling of reverse osmosis membranes and is experienced with various desalination processes as well as numerous leading pretreatment technologies.



Ron Parker

OPERATIONS

Black & Veatch (Tampa, FL) | BS, Secondary Education | 41 yrs exp | A Grade I Certified Class IV Water Supply Operator, KS; Certified Grade 4 Water Treatment Operator, AZ. Ron has more than 34 years of experience in the management of treatment plant operations, facilities operations and maintenance (O&M), treatment plant startup and commissioning, disinfection and neutralization of assorted structures and pipelines, operator training, process control troubleshooting, equipment maintenance, and O&M manual preparation. Ron holds WTP Operator licenses in multiple states and has prior experience as operations director for a large regional water supply agency, where he was responsible for the O&M of numerous WTPs, pump stations, and transmission system. Ron's expertise and keen operator focus will be invaluable for ensuring the engagement of the Authority's Operations team in the design process. Ron will lead our engagement of the Authority's Operations staff to ensure their goals and priorities are incorporated in the design.

Sam **MILLER, PE**

Well Surface Facilities



Black & Veatch (Orlando, FL) | MEng, Energy System Eng.; BS, Envir. Eng. | 8 yrs exp | PE – FL. Sam is a project engineer with experience in a variety of projects but primarily focused on civil and site roles and water resource projects. He has developed experience in grading, stormwater modeling, yard piping, site design, master planning, environmental permitting, and construction phase services. One of Sam's current assignments is leading a brackish water supply wellfield assessment project for Sarasota County. He has also been supporting the brackish wellfield expansion program for Fort Myers, for which he has been leading the team's design and permitting of the above-ground site and mechanical elements of the new wells. Sam's strengths include a proactive approach to communication and addressing challenges to keep projects moving forward.

Amanda **SCHWERMAN, PE**

Pumping & Hydraulics



Black & Veatch (Tampa, FL) | MS, Envir. Eng.; BS, Eng. | 18 yrs exp | PE – FL. Amanda is an expert in water system planning and hydraulic modeling and has served as the lead planning engineer and modeler on several water master plans within Florida and throughout the world. Her recent projects include master plans for the Cities of Tampa, Tallahassee, and Venice. Amanda also has experience in asset management projects, including projects for the City of Fort Myers and Toho Water Authority. She is familiar with the integration of asset management programs and principles into master plans. Amanda is also experienced with water quality evaluation and in-plant hydraulic analysis and design, including high service pumping stations and transmission/distribution infrastructure. Her expertise will ensure optimized plant hydraulics and efficient distribution pumping.

Erin **BRIGGEMAN, PE**

Chemical Storage & Feed



Black & Veatch (Overland Park, KS) | BS, Chemical Eng. | 22 yrs exp | PE – KS, TX, CO, OR, IL. Erin is a chemical engineer experienced in the design of chemical storage and feed facilities for water and wastewater treatment plants. She has worked on approximately 100 treatment plant designs throughout the U.S. She has been involved in the design of new water and wastewater treatment plants, plant expansions, water pump stations and distribution systems, and evaluations for regulatory compliance. Her responsibilities include the preparation of chemical facility technical memoranda; evaluations of different chemical feed technologies sizing, layout, and selection of equipment; preparation of process and instrumentation diagrams, materials selection; construction phase services, and regulatory compliance.

Olena **LYTVYN, PE**

Pipelines



Black & Veatch (Coral Gables, FL) | BS, Civil and Envir. Eng. | 12 yrs exp | PE – FL, IL. Olena has expertise in civil engineering designs, particularly water conveyance systems. Her experience includes composing preliminary engineering reports, transmission main route analysis, developing cost estimates, and inspections. She is experienced in pipeline design of various sizes (ranging from 8 - 108 inches in diameter) and various pipeline materials (including PCCP, HDPE, PVC, DIP, steel, and fiberglass). Olena has conducted manned entry condition assessments of potable water and raw water pipelines varying in size from 30 - 96 inches. Olena has also authored and presented a number of papers at ASCE Pipelines conferences.

Engineering Project Experience

Black & Veatch has extensive experience in all aspects of implementation of desalination plants that include feasibility study, piloting, design, permitting, procurement and construction phase services. permitting, with projects located on five continents. The salinity of the water treated by the desalination process ranged from less than 1,000 mg/L to 50,000 mg/L.

Some of the notable projects engineered by Black & Veatch include the following:

- **Marina East Desalination Plant, Singapore:** This plant is designed to treat reservoir water when available and seawater alternatively. The salinity variations between the two options is 35,000 mg/L and less than 1,000 mg/L.
- **Perris II Desalter:** Black & Veatch is performing extensive pilot and feasibility studies to increase recovery of the brackish desalination plant to more than 90% using technologies such as closed circuit RO, pulsed flow RO, etc.
- **Eagle Mine Zero Liquid Discharge (ZLD):** Black & Veatch designed this desalination plant to achieve zero liquid discharge.

Black & Veatch has completed numerous design and construction projects at the Peace River Facility. Through our deep knowledge of the facilities and process, we can seamlessly integrate the RO treated water with the existing WTP and identify cost saving opportunities to leverage commonality of facilities.

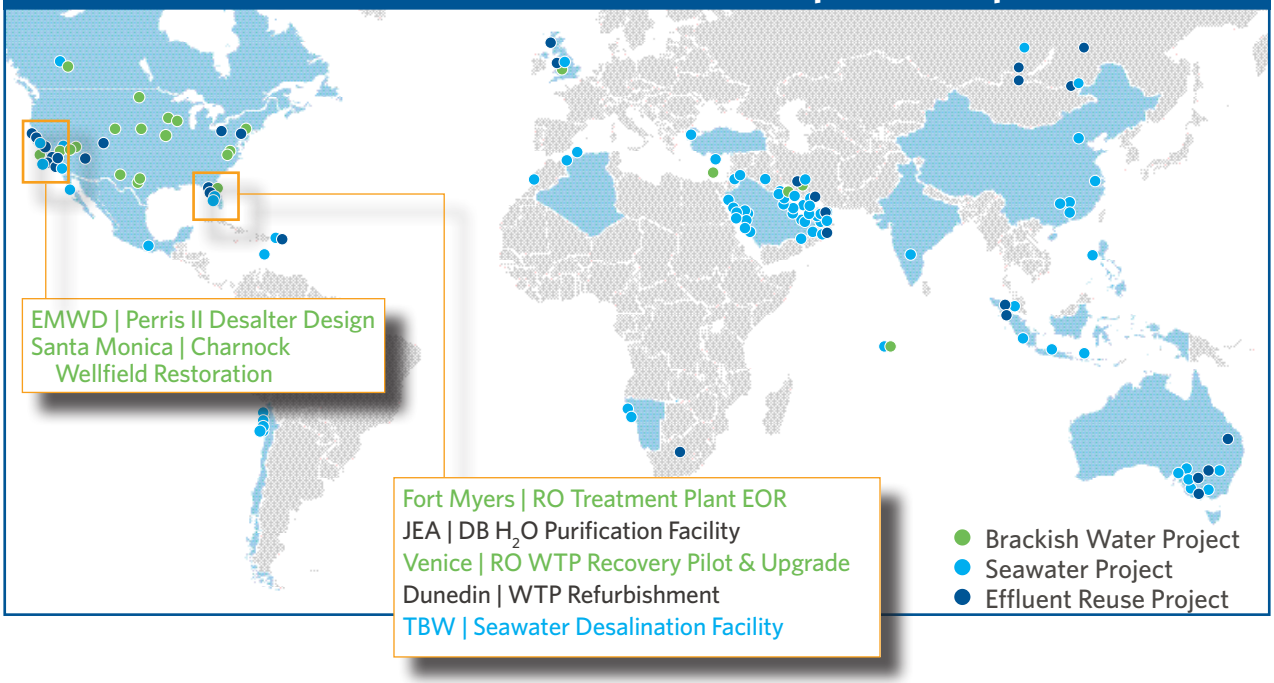
Black & Veatch has worked with all the major RO membrane manufacturers, including Dupont/ Dow, Toray, and Hydranautics and are intimately familiar with their products.

Black & Veatch has worked with all major RO membrane system suppliers in North American and around the world, including Harn RO, H2O Innovations, Biwater, Wigen, WesTec, Safbon, IDE, Acciona, Doosan, Veolia, and Metito.

Black & Veatch has delivered RO projects as design engineer under various procurement scenarios, including design-bid-build, design-build, owner's engineer for design-build-operate, etc.

Black & Veatch has provided engineering services for more than 100 desalination plants around the world, including five Florida RO plants in the last three years.

Black & Veatch Desalination Global Experience Map



Black & Veatch RO and Desalination Experience

Client; Location	Project	Capacity (MGD)	Year Completed	Scope of Services					
				Feasibility Study/ Due Diligence	Pilot Testing	Conceptual Design	Detailed Design	CAPEX/OPEX Estimate	Construction Phase Services
City of Fort Myers, FL	RO Treatment Plant EOR	12	Ongoing	■		■	■	■	■
City of Venice, FL	RO WTP Recovery Pilot & Upgrade		Ongoing	■	■	■	■	■	■
Tampa Bay Water, FL	Seawater Desalination Facility	25	2008	■	■	■	■	■	■
JEA; Jacksonville, FL	DB H_2O Purification Facility	1	Ongoing			■	■	■	■
City of Dunedin, FL	WTP Refurbishment	6	2022	■	■	■	■	■	■
EMWD; Menifee, CA	Perris II Desalter Design	4.5	2022	■	■	■	■	■	■
City of Escondido, CA	MFRO Facility	6	2018	■		■	■	■	
East Bay Municipal Utility District; Richmond, CA	Richmond Adv. Recycling Expansion Water Project	3.5	2010	■	■	■	■		■
Orange County Water District; Irvine, CA	30-MGD Expansion of GW Replenishment	100	2010		■		■		
Santa Clara Valley Water District; San Jose, CA	Silicon Valley Adv. Water Purification Center	6	2014				■		
City of Phoenix, AZ	CCWRP	12.5	Ongoing	■		■	■	■	
City of Santa Monica, CA	Charnock Wellfield Restoration	10	2010		■	■	■	■	
City of Oxnard, CA	GREAT Program Desalination Facility	7.5	2008		■		■		
Long Beach Water Department, CA	Seawater Desalination Facility	10	2005	■		■			
City of Santa Cruz, CA	Seawater Desalination Facility Study	4.5	2005	■		■			
City of Fargo, ND	Surface Water WTP	15	2016	■	■	■	■		
County of Maui Water Supply; Maui, HI	Desalination Feasibility Study	5	2006	■		■			

WTP Facility Plan & WTP RO Treatment Improvements

City of Fort Myers | Fort Myers, FL

The City of Fort Myers owns and operates a 12.0-MGD RO WTP to treat a brackish groundwater supply. Increasing water demands necessitate the expansion and improvement of the existing RO WTP to service the growing population.

WTP Facility Plan. Black & Veatch prepared a WTP Facility Plan to provide a guide for the City's future water system development and investment decisions. A detailed Capital Improvement Plan (CIP) was also developed to incorporate prioritized improvements and an implementation schedule with consideration for critical needs and budgetary constraints. Expansion and improvements to the RO membrane treatment were included as part of the Facility Plan.

WTP RO Treatment Improvements. Black & Veatch is developing a preliminary design for RO treatment expansion and improvements. The preliminary design includes raw water quality sampling and evaluation, a hydraulic modeling and capacity evaluation, an RO treatment improvement evaluation of different processes, an evaluation of the electrical systems, and an evaluation of the instrumentation and control systems. A basis of design and the results of the evaluations will be summarized in a preliminary design report. In addition, the preliminary design includes the preparation specifications for long-lead equipment, such as RO treatment equipment, electrical switchgear, and engine generators, to allow the Construction Manager at Risk (CMAR) to pre-purchase this equipment before completion of the design. After acceptance of the preliminary design report, Black & Veatch will provide the development of detailed design documents, permitting support, pre-construction services, construction administration and inspection services, training, startup, commissioning, and testing. In addition, the project is partially funded through the American Rescue Plan Act (ARPA) and funding assistance services are being provided to the City.

Under related projects at this facility, Black & Veatch has performed the following:

- Permit renewal for the UIC concentrate disposal well
- Design and CPS services for chemical storage, feed, and degasifier system
- Design and CPS services for brackish RO wellfield expansion and raw water pipelines

1



RELEVANCE TO PRMRWSA

- Water treatment
- RO membrane process
- Pumping
- Conveyance
- Planning
- Alternative evaluation
- Hydraulic modeling
- Design
- Permitting
- Cost estimating
- Construction
- Operational support
- Surveying
- Brackish GW Supply

TEAM MEMBERS

- M. Martin (PM)
- M. McGee (EM)
- V. Veerapaneni (Membrane Spec.)
- J. DeCarolis (Process Eng.)
- R. Parker (Ops. Spec.)
- R. Eck (Treat. Process Eng.)
- A. Schwerman (Hydraulic Modeling)
- A. Burbano (Treat. Process Advisor)
- A. Westfall (Proj. Dir.)

PERIOD OF SERVICE

2016 - Ongoing

COST

Budget: $3.5M (Design & CPS)
Est. Construction: $30M

CLIENT REFERENCE

Richard Moulton
Public Utilities Director
239-321-7216
RMoulton@cityftmyers.com

RO Desalination WTP Expansion, Optimization Plan

Tampa Bay Water | Tampa, FL

Black & Veatch has completed many projects for the Tampa Bay Water RO Desalination WTP (Desal Plant). The projects have included pilot testing of various pre-treatment and RO membrane processes, operations optimization and energy efficiency assessments, and the planning, design, and construction of improvements to the facility to enhance reliability and operational efficiencies.

In 2022, Black & Veatch completed a comprehensive RO Desalination WTP Optimization and Expansion Plan that included a condition assessment, hydraulic analysis, and a 12-month pilot testing program to assess various pre-treatment processes and RO membrane performance. Pre-treatment processes included dissolved air flotation (DAF), dual media filtration (DMF), and membrane filtration (MF) upstream of RO membranes. A variety of treatment process configurations, scenarios, and settings were evaluated as part of the pilot testing, including various pretreatment sequences, coagulant doses, loading rates, and cleaning frequencies. The results of this project defined a recommended approach for future treatment process and infrastructure improvements to optimize and expand the Desal Plant's sustainable operating capacity to meet the region's increasing water demands.

In previous years, Black & Veatch has also provided engineering and construction services for the following Desal Plant improvement projects:

- Design and construction of improvements to an existing seawater supply pump station and concentrate discharge system to address condition and reliability issues.
- Comprehensive energy audit of the Desal Plant processes and equipment. The results of this effort identified a variety of energy efficiency improvements.
- Black & Veatch is also currently serving as Owner's Engineer for the design-build project for the construction of a new seawater supply pump station and pipeline.

2



RELEVANCE TO PRMRWSA

- Water treatment
- RO treatment
- Pumping
- Conveyance
- SCADA system
- Planning
- Alternatives evaluation
- Hydraulic modeling
- Design
- Permitting
- Cost estimating
- Construction
- Operational support
- Surveying
- Geotechnical
- Concentrate disposal
- Energy recovery/efficiencies

TEAM MEMBERS

- R. Parker (Operations)
- R. Eck (Pilot setup, Operation)
- V. Veerapaneni (Treatment Process)
- A. Schwerman (Planning)
- E. Rectenwald (Hydro. Eval.)
- A. Westfall (Project Dir.)
- S. King (Permitting)

PERIOD OF SERVICE

2019 - 2022

COST

$2.9M
Completed on budget.

CLIENT REFERENCE

Danielle Keirsey, PMP
Planning Project Mgr. III - Eng.
727-791-2377
dkeirsey@tampabaywater.org

RO WTP Upgrades

City of Venice | Venice, FL



Black & Veatch is Engineer of Record for improvements to the City of Venice's 4.48-MGD RO WTP, treating sourcewater from a brackish groundwater wellfield. The project will expand the RO treatment process with addition of a second stage for increased water recovery, incorporating improvements to the supporting treatment systems, replacing electrical switchgear, and adding a second emergency engine-generator. The improvements are being constructed in phases, with the electrical switchgear and generator under construction and the process upgrades in design. In the planning stage of the project, Black & Veatch performed a two-phased pilot testing study. The first pilot confirmed the feasibility of increasing recovery from 50% to 75% with addition of a second RO stage, in satisfaction of a permit requirement. The second pilot evaluated alternative RO membranes and antiscalant products. Under a related project, Black & Veatch designed the City's new Potable Water Booster Pump Station, which will address growth on the City's east side and serve as an emergency operations center with accommodations to remotely operate the WTP and WWTP. The Booster PS design includes a 300 kW solar power array that will provide the majority of electricity to operate the facility.

RELEVANCE TO PRMRWSA

- Water treatment
- RO memb. process
- Pumping
- Conveyance
- SCADA system
- Planning
- Alt. evaluation
- Hydraul. modeling
- Design
- Permitting
- Cost estimating
- Construction
- Operat. support
- Surveying
- Geotechnical
- Brack. GW supply

TEAM MEMBERS

- M. Martin (QC)
- M. McGee (EM)
- J. DeCarolis (Treat. Process)
- V. Veerapaneni (Treat. Process)
- A. Schwerman (Planning)
- R. Eck (EM)
- E. Briggeman (Chem. Feed)
- R. Parker (Ops.)
- S. King
- A. Westfall
- B. Burchett
- M. Sakales
- K. Cahill

PERIOD OF SERVICE

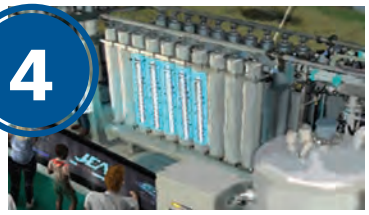
2019 - Ongoing

COST

Budget: $1.5M.
Project progressing on budget.

Water Purification Demonstration Project

JEA | Jacksonville, FL



Black & Veatch designed JEA's 1-MGD facility (expandable to 10 MGD) in the Advance Water Purification project, which will produce potable water using reclaimed water from JEA's Arlington East Water Reclamation Facility (WRF). The project includes a permanent demonstration facility and separate pilot testing system for additional testing. The major process components include membrane filtration, RO, advanced oxidation, and UV disinfection. The separate permanent pilot facility will have provisions to receive influent water from either the reclaimed water system or a pilot wetland system where the water will be stored prior to treatment in the pilot. Membrane filtration is designed with universal racks to allow testing of multiple membrane modules at larger scale. The RO system is designed with two stages and with a baseline 85% recovery. The pilot system will have a third stage to test higher recoveries. The UV/AOP system designed includes low-pressure, high-output (LPHO) lamps and can use either hydrogen peroxide or chlorine as the oxidant. This project also includes a visitor and education/training center as an integral component of the project to aid in public education and continued research and training.

RELEVANCE TO PRMRWSA

- Water treatment
- RO membrane process
- Pumping
- Conveyance
- SCADA System
- Planning
- Alt. evaluation
- Hydraulic modeling
- Design
- Permitting
- Cost estimating
- Construction
- Operational support
- Surveying
- Geotechnical

TEAM MEMBERS

- M. McGee (QC)
- A. Burbano (Technical Advisor)
- J. DeCarolis (Process)
- V. Veerapaneni (Process)
- E. Briggeman (Chem. Feed)
- O. Lytvyn (Pipelines)
- E. Rectenwald (Hydrogeology)

PERIOD OF SERVICE

2019 - Ongoing

COST

$60M

Perris II Desalter Facility – Phase I

Eastern Municipality Water District (EMWD) | Perris, CA



The Perris II Desalination Facility, Phase I (Perris II Desalter/Project) utilizes RO treatment technology to produce a programmed total of 5.4 MGD, considering a 20% nominal bypass flow and RO permeate production of 4.5 MGD. The Perris II Desalter enhances salinity management in the Perris South and Lakeview groundwater sub-basins and expands the use of local water supplies to meet the increasing EMWD service area. The Perris II Desalter also provides additional drought resiliency for EMWD and reduces reliance on imported water supply from Metropolitan Water District. Finished product water is delivered to the existing water supply system by connecting to existing pipelines. Black & Veatch is provided preliminary design report refinements, design analysis, design support services, final design and construction contract documents, operations manuals, and bid phase services. As a separate project Black & Veatch provided pilot testing services to evaluate the use of closed-circuit RO to minimize the volume of concentrate discharge.

RELEVANCE TO PRMRWSA

- Water treatment
- RO membrane process
- Pumping
- Conveyance
- SCADA system
- Alternative evaluation
- Design
- Cost estimating
- Construction
- Operational support
- Surveying
- Geotechnical
- Brackish GW supply

TEAM MEMBERS

- V. Veerapaneni (Treatment Process)
- J. DeCarolis (Treatment Process)
- R. Parker (Operations)

PERIOD OF SERVICE 2017 - 2022

COST $60M

Charnock Well Field Restoration

City of Santa Monica | Santa Monica, CA



Black & Veatch provided complete Engineering-Procurement-Construction (EPC) services for the City of Santa Monica's Groundwater Restoration Program, which provided wellhead treatment at the Charnock wellfield and final treatment at the Arcadia Water Treatment Plant. This award-winning project has enabled the City to fully restore its contaminated groundwater supply, reduce its dependence on imported water from Northern California and the Colorado River, and achieve sustainability goals. The primary treatment objective was to provide a barrier to the methyl-tertiary-butyl ether (MTBE) and tertiary-butyl alcohol (TBA) that had been detected in three of the five active wells in the Charnock well field. Other treatment objectives included softening, fluoridation, and chloramination for a total combined well flow of 10 MGD. Due to the layout of the City's groundwater sources and the distribution system, dissimilarities in the water quality from the wells, and the various contaminants present, a multi-barrier treatment approach was implemented that resulted in the development of two separate facilities: wellhead treatment at Charnock and final treatment at the City's Arcadia WTP. Black & Veatch supported expansion of the wellfield.

RELEVANCE TO PRMRWSA

- Water treatment
- RO membrane process
- Pumping
- Conveyance
- SCADA system
- Planning
- Alternative evaluation
- Hydraulic modeling
- Design
- Permitting
- Cost estimating
- Construction
- Operational support
- Surveying
- Geotechnical
- Brackish GW supply
- Wellfield expansion

TEAM MEMBERS

- V. Veerapaneni (Treatment Process)
- J. DeCarolis (Treatment Process)

PERIOD OF SERVICE 2008 - 2011

COST $60M

3 Consultant Team's Hydrogeologic Experience

Resumes of Key Personnel

Black & Veatch's in-house hydrogeological expertise and deep team of local hydrogeological resources enables us to assume comprehensive technical leadership and responsibility for all elements of the project. Our subconsultants supplement Black & Veatch's expertise and provide continuity with prior Authority projects.



Ed Rectenwald, PG, PMP

LEAD HYDROGEOLOGIST

Black & Veatch (Fort Myers, FL) | MS, Geology; BS, Geology | 28 yrs exp | PG – FL, GA, LA, TX; PMP. Ed serves as Ed serves as Black & Veatch's Hydrogeology National Practice Leader with over 25 years of experience in various hydrologic, geologic, environmental investigations, and expert witness testimony. This experience includes project management, design, permitting, construction and testing of Public Water Supply Wells/Wellfields (Surficial and Floridan Aquifer System) Class I injection wells, Class V Aquifer Storage and Recovery (ASR) wells, aquifer recharge wells, industrial supply wells, irrigation wells, monitoring wells, and rehabilitation of deteriorated wells. Ed has successfully managed the projects and teams for wellfield construction and expansion projects, ASR system construction, and led teams during Class I and Class V injection well facility construction on numerous projects. Ed is also involved with regional studies of the Surficial and Floridan Aquifer System by constructing detailed subsurface hydrostratigraphy maps from data obtained from exploratory well drilling, geophysical logging, and aquifer hydraulic testing and analysis results.



George Schlutermann, PG

HYDROGEOLOGICAL SUPPORT

Black & Veatch (Field FL) | MBA; BS, Geology | 34 yrs exp | PG – FL. George has over 34 years of experience working in groundwater, water, and wastewater resource evaluation and development; alternative water supply project management, water treatment facility design and permitting, reuse systems design and permitting, wastewater treatment facility design and permitting, water quality studies, shallow and deep aquifer water well drilling, project supervision and management, aquifer performance testing and analysis, geophysical testing and analysis, evaluation of development impacts, and other projects related to groundwater resource development. George has personally led the construction and testing of hundreds of exploratory boreholes, production wells and observation/monitoring wells, and is experienced in many aspects of construction and testing. George has been a licensed professional geologist in Florida since 1994.

Joe **HABER, PG**

Brackish Water Supply Wells; Groundwater Modeling



RESPEC (Lutz, FL) | MS, Hydrogeology; BS, Envir. Science and Policy | 23 yrs exp | PG - FL. Joe has over 23 years of practical experience in Florida hydrogeology, hydrology, geochemistry, underground injection control, geographic information systems, complex groundwater flow modeling and impact analysis. He has comprehensive experience in water use permitting (WUP), compliance, and reporting as both a former Southwest Florida Water Management District employee and as a consultant. Joe is experienced in well and wellfield design, including complex brackish groundwater environments, water quality analysis, brackish wellfield management, aquifer performance testing, and geophysical logging. Joseph was an employee of Progressive Water Resources, which was acquired by RESPEC in 2021, where he now works as a Water Resources Manager.

David **BROWN, PG**

Brackish Water Supply Wells



RESPEC (Lutz, FL) | BS, Geology | 40 yrs exp | PG – FL. David has a broad professional background in geology, groundwater hydrology, and permitting. Since 1983, he has managed the technical aspects of water resource development and sustainability projects throughout the southeastern United States, particularly in Florida. David has public and private professional experience, enabling him to provide a straightforward and integrated approach to resource development and protection. He has successfully worked with and provided technical input to numerous public officials and agencies involved in water resource policy. His background also includes groundwater modeling, stratigraphic interpretation, geophysical investigations, aquifer testing, ground and surface water quality monitoring, and total maximum daily loads (TMDLs).

Pete **LARKIN, PG**

Concentrate Disposal Well



ASRus (Tampa, FL) | BS, Chemical Eng. | 22 yrs exp | PE – KS, TX, CO, OR, IL. Pete is a Vice President at ASRus with 21 years of experience in the permitting, design, construction, and hydrogeologic testing of Upper Floridan aquifer and Lower Floridan aquifer wells. Pete has served as Project Manager/Lead Hydrogeologist on various projects involving Class I municipal and industrial injection wells, aquifer recharge, ASR, reuse, and water supply projects in southwest and central Florida. Pete has been actively involved with the Peace River ASR System since 2003. Since 2009, he has been Project Manager for the hydrogeologic services contract providing regulatory support to its ASR program, recently assisting with obtaining an operation permit for the 21-well potable water ASR system.

Anamaria **SARMIENTO, PG**

Concentrate Disposal Well



Black & Veatch (Coral Gables, FL) | BS, Geoscience | 10 yrs exp | PG – FL. Anamaria has experience in permitting, design, construction and testing oversight of Class V exploratory wells and Class I injection wells and rehabilitation of deteriorated wells. Her design, permitting and specialized hydrogeologic oversight experience includes the Miami-Dade WASD's Class I Industrial Injection Well that was drilled to 10,000 feet below land surface (bls) and was completed in the boulder zone to dispose of a combined wastestream of centrate fluid, scrubber fluid, effluent and leachate from Central District WWTP. This oversight included borehole geophysical log analyses, formation lithology interpretation, data support hydrogeologic modeling, and water level/water quality studies.

Organization Chart

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CLIENT SERVICES DIRECTOR
Andy Westfall, PE

PROJECT MANAGER
Mark Martin, PE ★

ENGINEERING MANAGER
Mike McGee, PE ★

TECHNICAL ADVISOR/ QA/QC
Facilities — Bobby Burchett, PE
Water Treatment — Arturo Burbano, PhD, PE, BCEE ★
Hydrogeology — Bob Moresi, PG

HYDROGEOLOGY (BRACKISH SUPPLY/UIC WELLS)

LEAD HYDROGEOLOGIST
Ed Rectenwald, PG ★

HYDROGEOLOGICAL SUPPORT
George Schlutermann, PG ★

BRACKISH WATER SUPPLY WELLS
Joe Haber, PG | *RESPEC* ★
David Brown, PG | *RESPEC* ★

GROUNDWATER MODELING
Joe Haber, PG | *RESPEC* ★
Renee Murch, PE

CONCENTRATE DISPOSAL WELL
Pete Larkin, PG | *ASRus* ★
Anamaria Sarmiento, PG ★

TEST WELL CONTRACTOR
Drilling Contractor to be Selected

WELL CONSTRUCTION OVERSIGHT
Juan David Villalobos

ENGINEERING (WATER TREATMENT PLANT & PIPELINES)

LEAD WATER TREATMENT PROCESS
Jay DeCarolis, PE ★

RO WTP FACILITIES DESIGN
Ryan Eck, PE ★

WELL SURFACE FACILITIES
Sam Miller, PE ★

CHEMICAL STORAGE/FEED
Erin Briggeman, PE ★

PFAS/EMERGING CONTAMINANTS
Dustin Mobley, PE

RENEWABLE ENERGY
Steve King, PE

DESALINATION SPECIALIST
Vasu Veerapaneni, PhD, PE ★

PUMPING & HYDRAULICS
Amanda Schwerman, PE ★

OPERATIONAL CONSIDERATIONS
Ron Parker ★

PIPELINES
Olena Lytvyn, PE ★

BLENDING/ POST-TREATMENT
Emily Tummons, PhD, PE

INTEGRATION WITH EXISTING WTP
Mike McGee, PE

SUPPORT SERVICES

SURVEYING/UNDERGROUND LOCATIONS
Hyatt

GEOTECHNICAL
Terracon

ENVIRONMENTAL
Earth Balance

CIVIL/SITE
Stephen Nelson, PE
Mike Sakales, PE

ARCHITECTURAL
Duane Hicks, RA

STRUCTURAL
Brad Vanlandingham, PE

BUILDING MECHANICAL
Kevin Cahill, PE

RESILIENCY
Nick Alexander

COST ESTIMATING
Mike Mackenzie, PE

PROJECT CONTROLS/ VALUE ENGINEERING
Angel Carrasquillo, PE

REGULATORY CONSIDERATIONS/ PERMITTING
Steve King, PE

★ *Key Personnel*

Hydrogeological Project Experience

Black & Veatch is an industry leader in hydrogeological services with our core team of hydrogeologists concentrated in Southwest Florida. Overall the firm has 10 Florida-based hydrogeologists led by our local Hydrogeology National Practice Leader Ed Rectenwald. **This group brings extensive expertise in local hydrogeological conditions, regulations, and the contracting community.**

On this project, Black & Veatch has partnered with RESPEC for support with brackish supply wells and ASRus for support with the UIC wells. Overall, the team has over 40 years' experience in design, implementation, oversight, analysis, and reporting of high capacity aquifer performance tests in fractured and karstic aquifers throughout Southwest Florida. **The team's hydrogeologists have experience with the construction and testing of production wells in Florida, including injection wells, ASR wells, recharge wells, water supply production wells, and monitoring wells.**

A few elements of our team's relevant expertise are described below, followed by project examples highlighting the team's experience.

Aquifer Performance Testing Experience:

Our team's aquifer performance testing experience includes production wells, monitoring wells, ASR wells, and injection wells under artesian and non-artesian conditions in fresh and super-saline waters up to approximately 200,000 mg/L total dissolved solids (TDS) concentrations, where water level head corrections for water density are necessary.

GW Flow and Solute Transport Modeling:

The Black & Veatch team of hydrogeologists have extensive experience in using a wide variety of groundwater modeling software, including SWFWMD's Districtwide Regulation Model (DWRM) to simulate groundwater flow, fate and transport of contaminants, saltwater intrusion and injected/recharge water migration, and ultimate aerial extent. Our groundwater modelers have a robust understanding of Southwest Florida hydrogeology and the extensive industry data available to support model build and calibration.

Partnering with RESPEC and ASRus supplements our team with deep hydrogeological experience specific to the Authority and continuity from prior projects. However, Black & Veatch's in-house hydrogeological expertise enables us to comprehensively lead and take responsibility for the entire project, including the hydrogeology elements.

Our team has developed and applied groundwater models on regional, subregional, and local scales. We have used these models to evaluate existing groundwater and surface water resources, impacts to a groundwater, surface water resources, and existing wells from installation of proposed production wells, ASR well operation and recovery efficiency, and potential for upward migration of injected water.

GW Sampling for Field Testing & Lab Analysis:

Our team of hydrogeologists has sampled or overseen laboratory sampling of numerous production wells, test wells, monitoring wells, ASR wells, and injection wells for primary and secondary drinking water constituents.

Hydrogeologic Data Collection & Analysis:

Our team of has many years of experience using hydrogeologic and geophysical data to discern geologic and hydrogeologic units and determine permeable and confining units. We have collected and compiled lithologic, water quality, water level, hydraulic parameter, geophysical logs, and drilling performance data from numerous production wells, monitoring wells, ASR wells, and injection wells in the Florida.

Test Well Drilling Experience:

Our team has extensive experience providing office support and field oversight during the well drilling process, including the many activities that must be witnessed, monitored, evaluated, and documented during the drilling operation. **Overall, our team has logged tens of thousands of staff-hours providing high level construction oversight of test wells and production wells.**

Black & Veatch Florida Well Experience

Client	Project	Year Completed
Sarasota County, FL	System-wide Brackish Wellfield Assessment	2022
City of Cape Coral, FL	Brackish Wellfield Expansion (4 New Supply Wells)	2022
City of Fort Myers, FL	Brackish Wellfield Expansion (10 New Supply Wells)	2022
City of Cape Coral, FL	Brackish Wellfield Testing Program (6 Test Wells)	2022
Bonita Springs Utilities, FL	Brackish Wellfield Expansion (11 New Supply Wells)	2022
City of Boca Raton, FL	Brackish Wellfield Management and Rehabilitation Services	2022
Lee County Utilities, FL	Pinewoods Brackish Wellfield Management	2022
Palm Beach County, FL	Solid Waste Authority of Palm Beach County Brackish Wellfield Management	2022
Lee County Utilities, FL	Fort Myers Beach WRF Design, Permitting, Construction Observation, and Operational Services for a Redundant Injection Well	2022
Miami-Dade WASD, FL	Hialeah Brackish Wellfield Assessment	2021
Confidential Client, FL	Large-scale Injection Well System Feasibility Study in West-Central and Central Florida	2021
Island Water Association, FL	Water Supply Master Plan with Brackish Wellfield Assessment	2021
DeSoto County, FL	Injection Well System Feasibility Study	2021
Miami-Dade WASD, FL	Hialeah Preston Wellfield Rehabilitation and Replacement	2021
Miami-Dade WASD, FL	Miami Springs Wellfield Rehabilitation and Replacement	2021
Lee County Utilities, FL	Fiesta Village WRF Design, Permitting, Construction Observation, and Operational Services for a New Injection Well System	2020
Miami-Dade WASD, FL	Miami Springs Wellfield Rehabilitation/Replacement	2020
City of Fort Myers, FL	Brackish Wellfield Expansion (P-22, P-23 and Test Wells)	2020
Miami-Dade WASD, FL	WUP Modification	2020
Bonita Springs Utilities, FL	UFA WUP Renewal and LTA Modification	2020
Tampa Bay Water, FL	Eldridge Wild Wellfield Rehabilitation	2019
City of Fort Myers, FL	Well P-19 Rehabilitation	2019
City of Fort Myers, FL	WUP Renewal	2019
Miami-Dade WASD, FL	Ocean Outfall Legislation Program at the South District, Central District, and North District WWTPs (Permitting, Design, and Construction Observation Services for 18 Injection Wells	2019
City of Cape Coral, FL	Wellfield Management and Rehab	2018
City of Fort Myers, FL	Wells P-19 and P-20, Test Wells (Expansion)	2017
Sarasota County, FL	Venice Gardens WF	2016

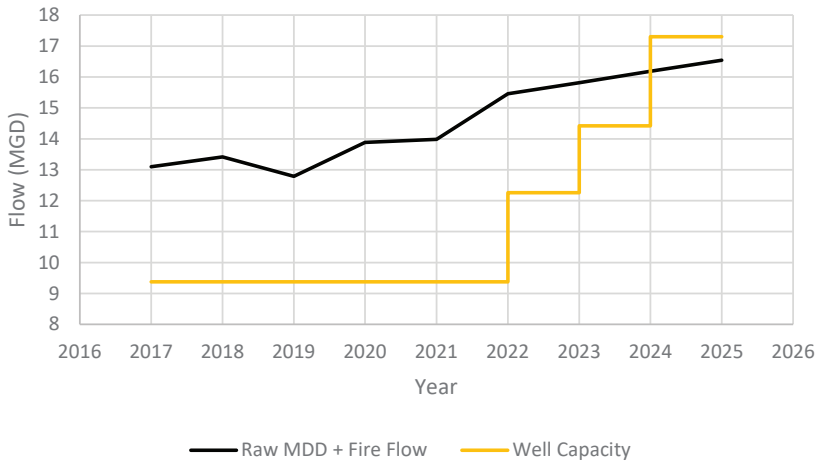
Wellfield Expansion

City of Fort Myers | Fort Myers, FL

The City of Fort Myers receives raw water, for Public Water Supply, from its Eastwood wellfield. The wellfield contains 20 production wells and a system of raw water transmission mains to deliver the raw water to the water treatment plant. The City has experienced raw water quality degradation issues with its production wells due to increased salinity. The City wanted to increase the reliability of raw water supply to meet current and projected potable water system demands and hired Black & Veatch to provide expansion of their existing wellfield.

Black & Veatch developed a program that included locating additional production wells away from the existing wellfield to lessen their impact on the existing wells. The City hired a Construction Manager at Risk (CMAR) for each of the following portions of the work: well drilling, well surface facilities, and raw water pipelines. Black & Veatch provided site selection, pipeline route evaluation, assistance with land acquisition, hydrogeological design, surface facilities design, pipeline design, permitting support, pre-construction services, construction administration and inspection services, and startup and clearance assistance. The wellfield expansion program consists of 11 new production wells with an operating capacity of 5.5 MGD and 40,000 linear feet on new raw water transmission mains. The wellfield expansion is being delivered under an extremely aggressive schedule to meet rapidly growing demands.

Well Capacity vs. Maximum Month Demand + Fire Flow



Black & Veatch provided planning, design, permitting, construction and startup services to on a fast-track basis increase well capacity from 9.38 MGD to 17.30 MGD over a 4-year period.



RELEVANCE TO PRMRWSA

- Water supply wells
- Brackish groundwater
- Test wells
- Pumping
- Conveyance
- Southwest Florida hydrogeol.
- Wellfield planning
- Wellfield management
- Groundwater modeling
- Hydraulic modeling
- Alternative evaluation
- Design
- Water use permitting
- Cost estimating
- Construction
- Operational support
- Surveying
- Geotechnical
- Raw water transmission mains

TEAM MEMBERS

- M. Martin (PM)
- M. McGee (Pipeline Design Lead)
- S. Miller (Well Des. Lead)
- O. Lytvyn (Pipeline Eng.)
- E. Rectenwald (Hydrogeol. Lead)
- A. Sarmiento (Hydrogeol.)
- A. Westfall (PD)

PERIOD OF SERVICE

2020 - Ongoing

COST

Budget: $58M construction. Progressing on budget.

CLIENT REFERENCE

Richard Moulton
239-321-7216
RMoulton@cityftmyers.com

Wellfield Assessment

Sarasota County | Sarasota County, FL



Black & Veatch is supporting Sarasota County in the development of a wellfield management plan and dashboard to support its wellfield operation and future planning efforts. This is an intricate project that was developed by leveraging numerous past studies and County-developed data sets to inform complex decisions. This project supports the County's development of wellfield expansion and analysis of possible well locations and planned rehabilitation based on groundwater model results and field data. This Power BI-based dashboard visualization approach takes complex information such as water quality data, model results, test well data, and other information and makes it easily understandable for multiple parties. The dashboard can be utilized to manage wellfield operation in a manner that optimizes regulatory compliance and optimize well performance and water quality. The Black & Veatch team provides constant communication during dashboard development projects via a series of formal and informal workshops to create a collaborative environment and promote stakeholder engagement.

RELEVANCE TO PRMRWSA

- Water supply wells
- Brackish GW
- SCADA System
- SW Florida hydrogeol.
- Wellfield planning
- Wellfield mgmt.
- GW modeling
- Alt. evaluation
- Operational support
- Operational dashboard
- Water quality optimiz.

TEAM MEMBERS

- E. Rectenwald (Lead Hydrogeol.)
- S. Miller (PM)
- A. Sarmiento (Hydrogeol.)
- A. Westfall (PD)

PERIOD OF SERVICE

2022 - Ongoing

COST

Budget: $150,000.
Progressing on budget.

Hydrogeological Service Program and Ocean Outfall Injection Well Program

Miami-Dade Water and Sewer District (MDWASD) | Miami, FL



Black & Veatch provided specialized hydrogeologic consultant services to MDWASD for its production wells, ASR wells, injection wells, and monitoring wells. Black & Veatch lead the WUP Modification Application to increase the existing 350-MGD permitted capacity by an additional 20 MGD and is supporting MDWASD with completing the groundwater and optimization modeling in support of increased Biscayne aquifer allocations and seasonal withdrawals. Black & Veatch used WASD's optimization tool in conjunction with the USGS Urban Miami-Dade model. Black & Veatch is also technical lead for the design, construction and testing of four 20-MGD municipal injection wells at the North District WWTP, nine 20-MGD municipal injection wells at the Central District WWTP, and three 20-MGD municipal injection wells at the South District WWTP. There are many moving parts on this project, with up to six drill rigs in operation simultaneously on a continuous 24 hours a day, 7 days a week schedule.

RELEVANCE TO PRMRWSA

- Water supply wells
- Brackish GW
- UIC/DIW wells
- Test wells
- Pumping
- Conveyance
- SCADA System
- SW FL hydrogeol.
- Wellfield planning
- Wellfield mgmt.
- GW modeling
- Hydraulic modeling
- Alt. evaluation
- Design
- Water use permitting
- UIC well permitting
- Cost estimating
- Construction
- Ops. support
- Surveying
- Geotechnical
- Raw water trans. mains
- Microsoft PowerBI dashboard for wellfield optimization

TEAM MEMBERS

- A. Burbano (WQ)
- S. Miller (Permit, Wellfield Optimiz.)
- O. Lytvyn (Pipelines)
- E. Rectenwald (Lead Hydrogeol.)
- A. Sarmiento (Hydrogeol.)

PERIOD OF SERVICE 2018 - Ongoing

COST $11M

General Hydrologic/Hydrogeologic Services

Peace River Manasota Regional Water Supply Authority, FL



RESPEC (formerly Progressive Water Resources) has provided technical hydrologic and hydrogeologic, water supply planning, development and permitting services for the PRMRWSA since 2007, including serving under an ongoing General Hydrologic/Hydrogeologic Services contract. RESPEC has successfully secured several water use permits (WUP) for the Authority. **In 2022, RESPEC assisted the Authority in permitting a 9.0-MGD brackish water wellfield consisting of an additional ten (10) production wells.** RESPEC has also assisted the Authority with a number of important water supply planning projects. RESPEC's role in these regional-scale water supply planning projects has included identification of potential regional water supply source opportunities, hydrogeologic and groundwater flow modeling assessment, development of demand projections, consideration of state and regional water management district water policies, and cooperative funding. RESPEC has also provided technical hydrogeologic field services to the PRMRWSA in support of its ASR wellfields, and numerical groundwater flow modeling evaluations using regional models developed by the Southwest Florida Water Management District.

RELEVANCE TO PRMRWSA

- Water supply wells
- Brackish groundwater
- SW Florida hydrogeology
- Wellfield planning
- Wellfield management
- Groundwater modeling
- Water use permitting
- UIC well permitting

TEAM MEMBERS

- J. Haber (RESPEC)
- D. Brown (RESPEC)

PERIOD OF SERVICE

2007 - Ongoing

Deep Injection Well Expansion

Manatee County | Manatee County, FL



ASRus provided hydrogeologic services to increase the reuse disposal capacity and pumping capacity at the County's North Regional WRF. ASRus provided design, permitting, construction, and startup services for two deep injection wells at this facility — a Class V injection well into the Lower Floridan Aquifer (LFA) designed to dispose of excess reclaimed water and a deeper Class I industrial well completed into the LFA designed to accept treated reclaimed water or future concentrate from a proposed RO facility. ASRus continues to serve as the County's primary UIC hydrogeologic consultant for their deep injection well system, including permitting, mechanical integrity testing, well rehabilitation, annual reports, and assistance with the County's Reclaimed ASR program. Most project under the County's UIC program are managed by Pete Larkin, PG. Because of the high quality of service consistently provided by ASRus to the County, ASRus was also awarded a prime contract to provide Class I industrial injection well services to the County for the design, permitting, construction, and startup of the County's highly publicized Piney Point injection well system in Northeast Manatee County.

RELEVANCE TO PRMRWSA

- Design
- UIC well permitting
- UIC/DIW wells
- Cost estimating
- SW Florida hydrogeology
- Construction

TEAM MEMBERS

- P. Larkin (ASRus)

PERIOD OF SERVICE

Ongoing

4 Preliminary Project Understanding, Approach, and Schedule

1 Understanding & Approach to Planning, Design, Permitting & Construction

The Black & Veatch team understands that the Authority requires this project to develop a 30% level design alternative for a diversified water supply that will include evaluation of a cost-effective and reliable brackish water source and treatment technologies that can be implemented over the next five years to reliably meet its increasing demands. **We fully understand that this project will culminate in development of a 30% level Brackish Water Reverse Osmosis (BWRO) Preliminary Design Report (PDR) by April 2024.** Our multi-disciplined team has unique familiarity and experience with your Peace River Facility (PRF) WTP and understands that this project entails evaluation of a new deep injection well (DIW) concentrate disposal facility as well as parallel evaluation of how best to develop and manage a sustainable new brackish water wellfield source.

Our proven approach is founded on a recent similar program engagement for Fort Myers, where we are helping the City address growing water demand through aggressive brackish wellfield and fast-track RO WTP expansion.

Proposed Project Approach

Data Collection

- Review all previous studies, well testing, and historic groundwater quality and yields in the vicinity of the PRF.
- Submit preliminary data request that will result in determining the PRF WTP existing conditions and finished water quality.
- Conduct a Preliminary Engineering Site Visit Workshop at the PRF WTP to fully understand the Authority's goals for this project.

Preliminary Regulatory Review

- Our experienced team will review and summarize the SWFWMD WUP rules and proposed WUP modification strategy as well as the Florida Department of Environmental Protection (FDEP) UIC regulations to ensure that parallel well construction and testing and well and aquifer performance testing will manage the technical risks.

Brackish Raw Water Quality Evaluation and WTP Finished Water Quality Goals

- Raw groundwater quality and quantity will be determined using our proposed Wellfield Monitoring Application to model, develop, and properly manage the new brackish wellfield. Within the first two months of this project, and similar to our recently completed analyses of the City of Fort Myers' brackish water wellfield, we will use Monte Carlo statistical analyses to account for variations in water quality and quantity and our knowledge of local groundwater conditions to predict future brackish ground water quality with respect to critical parameters that impact the design. These include total dissolved solids, calcium, sulfate, silica, sodium, chloride and strontium. These parameters impact the system design pressure required in future, treated water quality and membrane selection.
- We will conduct a collaborative workshop with the Authority to discuss the initial findings of brackish Raw Water Quality evaluation and to discuss potential WUP modifications. At this same workshop we plan to determine Finished Water Quality goals and associated finished water blending facilities.

Evaluate DIW Concentrate Disposal Facilities

- Our experienced team will evaluate preliminary concentrate disposal injectate and will evaluate suitable injectate zones for consideration.

Wellfield Design and Permitting Evaluation

- As discussed in subsection 4.2, we will perform numerical groundwater flow modeling using SWFWMD's DWRM4 three-dimensional hydrogeologic modeling that will more accurately predict future raw water quality to optimize design of wellfield facilities.

Well Construction and Testing Program TM

- Implementation of the Well Construction and Testing Program.

BWRO Treatment Technology Evaluation TM

- Similar to our recent experience with evaluating various treatment technologies to expand the City of Fort Myers' RO WTP facility, and considering the preliminary findings and results determined in the above tasks, our process experts will work with our hydrogeological experts to evaluate various treatment alternatives:
  - Pretreatment improvements scheme, optimal RO membrane configuration options and Energy Recovery Device schemes, and optimal raw water bypass blending scheme. **Treatment technologies will consider that this new BWRO treatment facility will be designed for reliability and for anticipated changes in raw water quality over time.**
  - Our integrated team of experienced engineers and hydrologists will conduct a collaborative workshop to discuss and present the evaluation results and the various advantages and disadvantages of the various alternatives in order to assist in the selection of the preferred BWRO schemes.
  - We will conduct this BWRO Treatment Evaluation in parallel with the hydrogeological analyses and the preliminary well construction activities within four months from notice to proceed (NTP).

Hydraulic WTP Modeling Evaluation

- We will develop a preliminary hydraulic modeling to evaluate flows from the brackish water wellfield to the WTP, as well as projected concentrate disposal flows from the RO WTP.
- A pipeline route study will be performed to determine the most suitable and cost-effective route for the raw water and concentrate disposal pipelines, and together with the hydraulic modeling, this will determine preliminary pipeline sizing and support development of RO system design projections.

Preliminary Design Report (PDR)

- The PDR will be developed and completed by the end of 2023, and overall we will work collaboratively with the Authority to establish your requirements and preferences for the new BWRO and wellfield and concentrate disposal facilities:
  - Equipment/technologies
  - Expandability
  - Automation and Control strategy
  - Administrative spaces and building architecture
  - Operational considerations
- Design criteria for brackish wellfield, pipelines, and BWRO Treatment facilities will be developed.
- A site investigation will be performed to develop several alternative preliminary site plan layout configurations for the selected BWRO scheme, which will result in the most cost-effective integration with the existing surface WTP infrastructure.
- The PDR will also include other Civil/Structural/Plumbing/HVAC Evaluations that will result in seamless and cost-effective integration and blending at the PRF WTP.
- Similar to the chemical feed and storage improvements designed by Black & Veatch as part of the 1991 Rebuild project, **our team will work with the Authority to develop preliminary design that optimizes use of existing bulk chemical storage facilities** while providing the ancillary chemical feed and storage systems for the new BWRO process.
- SCADA evaluation and I&C workshop will be conducted with the Authority to mutually determine the required SCADA improvements and remote control and monitoring features for

the new facilities to best achieve the Authority's automation and control strategy.

- In addition, our construction and procurement specialists will perform a market analysis of construction and procurement considerations. These findings and recommendations will also be presented to the Authority in a workshop.

As a $2B per year contractor, Black & Veatch has the construction market knowledge and connections to help the Authority select equipment and materials of construction in consideration of pricing and delivery time trends.

Survey/SUE/Geotechnical/Environmental Data Collection

- Perform limited survey, SUE investigation, and geotechnical data collection efforts with to support 30% design.
- Perform Preliminary Environmental Assessment.

30% Design Criteria Package for Brackish GW Treatment

- 30% Design Drawings and Technical Specifications will be developed by our experienced Black & Veatch team. **Our team is uniquely familiar with the Authority's design document standards and preferences with our recent PRF WTP design efforts such as the 1991 Rebuild and the Train 5 & 6 and Train 7 & 8 Rehabilitation projects.**
- This final deliverable will also include an accurate and reliable OPCC, which we will truth-check based on market factors and supply chain conditions.
- Permitting requirements.
- Project schedule for detailed design/permitting/construction will also be delivered with inputs from our construction and procurement specialists.

The final PDR and 30% Design Package will be discussed and confirmed during a collaborative workshop so that this final project deliverable will be completed by the end of March, 2024, as shown in the proposed project schedule on the following page.

Treatment Approach

The following further explains the Black & Veatch team's recommended approach for evaluating and implementing BWRO treatment:

Water Quality Variations

As evident from the hydrogeological studies, the salinity of the well water can increase with increased yield of each well as more saline water from lower formation is withdrawn. To limit the salinity of the well water, more wells are recommended to limit withdrawal from lower formations, thereby increasing the cost of wells. However, the cost of additional wells required to maintain lower salinity should be compared to the cost of treating higher salinity water from fewer wells that withdraw water from greater depth.

We will conduct the following studies to establish the basis of design for the RO plant:

- Determine anticipated water quality from shallow and deep wells into the future. Conduct Monte Carlo simulations to establish the water quality envelope as a function of well depth and into the future.
- Conduct a high level costing study comparing the cost treatment of water for (a) fewer wells with higher salinity versus (b) more wells and lower salinity.
- Determine the maximum recovery possible based on the water quality and include the concentrate disposal cost in the evaluation.

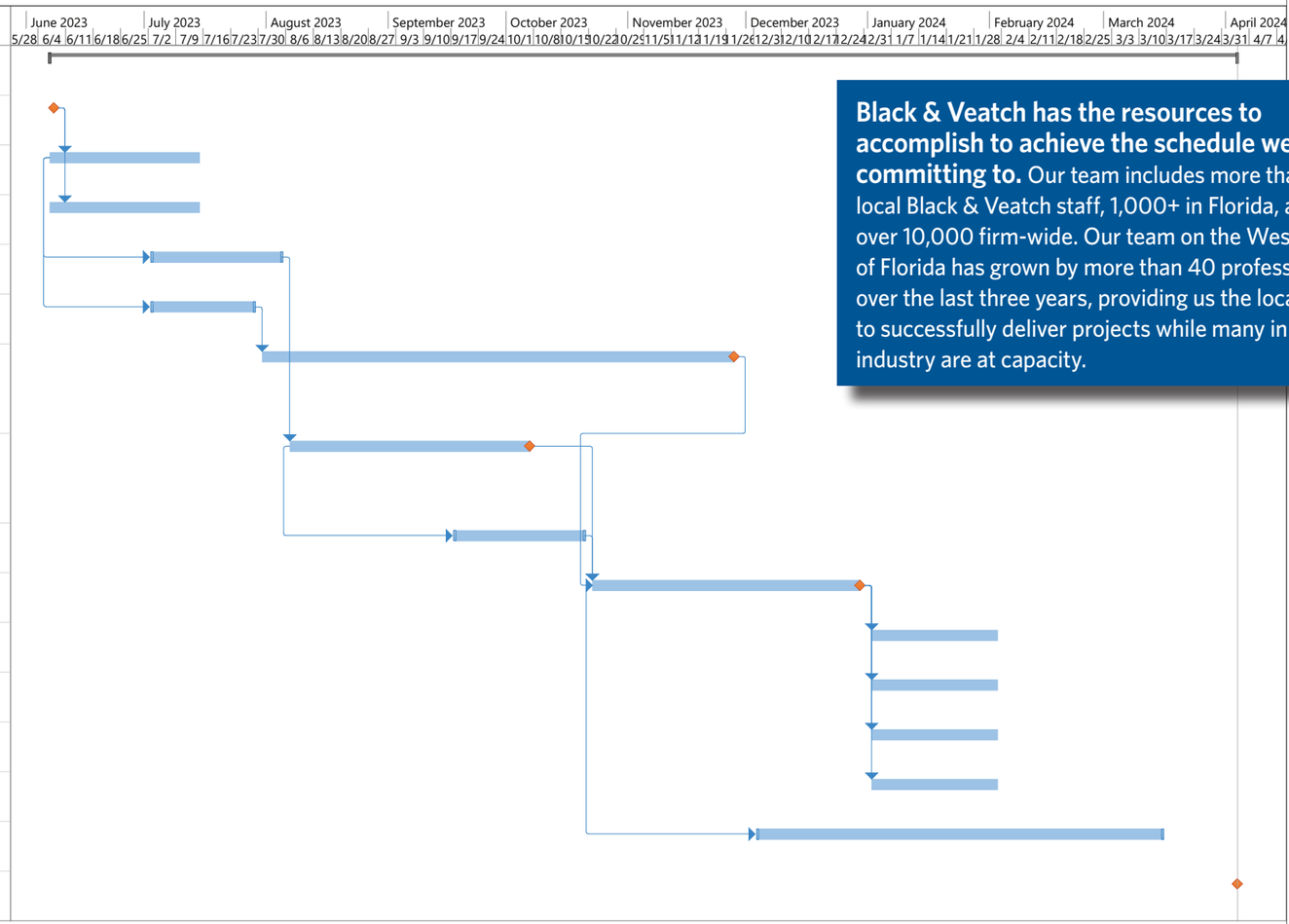
RO System Design

Pretreatment: Though it is anticipated the source water for the RO system will have low concentrations of organic and biological foulants, pretreatment is recommended to address sand, silt (e.g., sand separators and cartridge filters), and the potential for scaling (antiscalant and acid).

Recovery: Based on the water quality presented in the Preliminary Design document (2013), the limiting constituent is likely to be silica. Even if

Peace River Brackish Groundwater Facility

ID	Task Name	Duration	Start	Finish	Predecessors
0	**Peace River Brackish Groundwater Facility**	**216 days**	**Wed 6/7/23**	**Wed 4/3/24**	
1	Notice to Proceed	1 day	Wed 6/7/23	Wed 6/7/23	
2	Task 1 - Data Collection & Analysis	28 days	Wed 6/7/23	Fri 7/14/23	1
3	Task 2 - Regulatory Review	28 days	Wed 6/7/23	Fri 7/14/23	1
4	Task 3 - Brackish Water Quality Evaluation	25 days	Mon 7/3/23	Fri 8/4/23	2SS+26 days
5	Task 4 - Wellfield Design & Permitting Evaluation	20 days	Mon 7/3/23	Fri 7/28/23	2SS+26 days
6	Task 5 - Well Construction & Testing Program/Technical Memorandum	86 days	Mon 7/31/23	Mon 11/27/23	5
7	Task 6 - Brackish Water Treatment Technology Evaluation/Technical Memorandum	45 days	Mon 8/7/23	Fri 10/6/23	4
8	Task 7 - Hydraulic Modeling Evaluation	25 days	Mon 9/18/23	Fri 10/20/23	7SS+46 days
9	Task 8 - Preliminary Design Report	50 days	Mon 10/23/23	Fri 12/29/23	6,7,8
10	Task 9 - Topographical Survey	24 days	Tue 1/2/24	Fri 2/2/24	9
11	Task 10 - Subsurface Utility Engineering	24 days	Tue 1/2/24	Fri 2/2/24	9
12	Task 11 - Geotechnical Investigation	24 days	Tue 1/2/24	Fri 2/2/24	9
13	Task 12 - Environmental Assessment	24 days	Tue 1/2/24	Fri 2/2/24	9
14	Task 13 - 30% Design Drawings & Specifications	75 days	Mon 12/4/23	Fri 3/15/24	9SS+43 days
15	Task 14 - Authority Board Meeting	1 day	Wed 4/3/24	Wed 4/3/24	



Black & Veatch has the resources to accomplish to achieve the schedule we are committing to. Our team includes more than 100 local Black & Veatch staff, 1,000+ in Florida, and over 10,000 firm-wide. Our team on the West Coast of Florida has grown by more than 40 professionals over the last three years, providing us the local depth to successfully deliver projects while many in the industry are at capacity.

Schedule

Black & Veatch is committed to providing the Authority with responsive service and completion of this project in an expeditious manner. This commitment is supported by the location and depth of our proposed team and the comprehensive capabilities of our in-house resources. **Schedule development and maintenance is crucial** to the overall success of the project. Black & Veatch understands the value of a solid upfront effort in the development of the project schedule. We have already developed a preliminary project schedule to achieve the completion of the project by the April 2024 funding application deadline. Our Project Manager, Mark Martin, PE, will meet with Authority staff early in the process to clearly identify the goals and drivers for the project, and refine the schedule with your input. Effective communication and coordination with the Authority's Project Manager is essential to define the scope and schedule for all deliverables and decision points. With assistance of our Project Controls specialist, Angel Carrasquillo, Mark will maintain the schedule using Microsoft Project or Primavera.

Project: Peace River Brackish Groundwater Facility
Date: Sun 3/5/23

Task | Milestone | Project Summary | Manual Task | Start-only
Split | Summary | Inactive Summary | Manual Summary | Finish-only

Page 1

the salinity increases in the future, it is likely to be due to sodium and chloride and silica would still be the limiting salt for recovery. **Maximizing recovery would limit raw water pumping rates, as well as reduce the concentrate flow and hence, the cost of concentrate wells required. We will evaluate the following options to maximize recovery:**

- Base recovery: A base recovery of around 90% is possible based on the water quality available. We will design a traditional primary RO system, modified to achieve this maximum recovery possible through optimal skid design to ensure hydraulics meet the required design criteria.
- Concentrate treatment RO systems: The concentrate from the base RO system can be further treated using high recovery systems such as closed circuit RO (CCRO), pulsed flow RO (PFRO) and Counter Flow RO (CFRO). These newer advanced RO system designs would allow additional recovery of up to 50%, thereby reducing the concentration flow to less than 5% of the permeate.

Black & Veatch's design will incorporate features to accommodate increased salinity in the future: As the salinity increases in future, the RO system would require tighter membranes and higher feed pressure to maintain the same water quality and permeate flow rate. The RO system will be designed for anticipated water quality in the future with the tightest RO membranes required and associated high feed pressure. Specifically, the RO high pressure feed pump, interstage booster pump and the pressure vessels will be designed for the future high pressures needed. The pumps will be equipped with variable frequency drives (VFDs). During the initial years of operation, more permeable RO membranes with lower rejection can be used, and the pumps will operate at appropriate lower feed pressure. In the future, the membranes will be replaced with high rejection membranes that require higher feed pressure. The pumps can also be retrofitted with different impellors if needed to meet the high-pressure requirements.

Key elements of our approach to the RO WTP Design:

- Maximize recovery to achieve multiple benefits
- Design for future variations in salinity
- Address water quality for distribution system compatibility
- Leverage our knowledge of your existing WTP to achieve cost-saving synergies
- Prioritize operational considerations and engagement

RO train configuration for energy optimization: Several innovative features will be evaluated for implementation to address the varying salinity:

- Use of booster pumps between first and second stages, between second and third stages to reduce energy consumption and balance fluxes.
- Hybrid membrane design, with high permeability but lower rejection membranes in the first stage and higher rejection membranes in later stages.
- Use of an energy recovery device to harness the hydraulic energy in the brine and use it within the system for boosting interstage pressure.

These design features will minimize energy consumption while meeting the permeate water quality and flow demand.

Need for future second pass: If the future salinity increase is expected to be very high and can not be accommodated within the RO system design, then a second pass system can be designed for in the future. The size of this second pass RO can be reduced considerably by treating only the permeate from the second and third stages of the first pass RO, in the split-stage 2-pass RO system configuration.

Post Treatment

Often overlooked is the compatibility of desalinated water with the water in the distribution system. Comparison is often limited to matching salinity and specific constituents such as sodium, chloride, and TDS. **It is critical that the combined water from the desalination plant and surface water plant is compatible with**

the distribution system water quality to avoid corrosion or dissolution of any precipitates that are present on the pipe walls. We will include the necessary post treatment required with respect to pH, alkalinity, hardness and possibly a corrosion inhibitor to ensure that water from the combined treatment plants does not disrupt the chemistry of the water in the distribution system established over decades. In blending waters from the RO and surface water facilities, we recommend blending in-pipe with static mixers prior to the finished water storage tanks.

In addition, removal of hydrogen sulfide from the RO product water may be required. Forced draft degasifiers with upstream pH reduction is a proven cost-effective technology for H_2S removal. The need for odor control will also be evaluated, including chemical and biological systems. Lastly, the design will include chlorine disinfection to disinfect the product water from the RO system prior to blending with existing treated surface water.

Black & Veatch's past design and construction experience at the Peace River Facility allows us to leverage efficiencies in integrating the new RO facility with the existing surface water facility. Commonalities include chemicals such as sodium hypochlorite, ammonia and caustic and finished water storage tanks to maintain disinfection residual. Our knowledge of the site layout provides an advantage in the use and possible expansion of these facilities.



Ron Parker performs operator training during a plant startup.

Operations

Black & Veatch understands the critical importance of operational considerations to the design, construction, and startup process. We will engage the Authority's operations staff early and throughout project implementation to ensure that their goals and preferences are incorporated, including elements like equipment type, control strategies, and maintenance accessibility.

To support this, Black & Veatch engages its Operations Technology Group (OTG), a team of licensed, career-dedicated treatment plant operators. **We have two OTG professionals in our local Tampa office, including Ron Parker, with more than 35 years of experience in the field**, including seven years as Senior Operations Manager for a large regional water utility where he was in charge of O&M for a 170-MGD of treatment and pumping facilities.

Black & Veatch's Operations Support Services:

- Operability reviews
- Safety-by design reviews
- Construction sequence planning
- O&M Manual development
- Standard Operating Procedures
- Startup and commissioning
- Operator and maintenance training
- Operations troubleshooting
- Process control optimization

2 Hydrogeology and Groundwater Quality of Southwest Florida

The successful construction and operation of the proposed brackish groundwater wellfield capable of supplying permitted quantities requires comprehensive knowledge of both hydrogeology and well construction. The hydrogeology at the PRF and the RV Griffin Reserve is comprised of three major hydrostratigraphic units identified as:

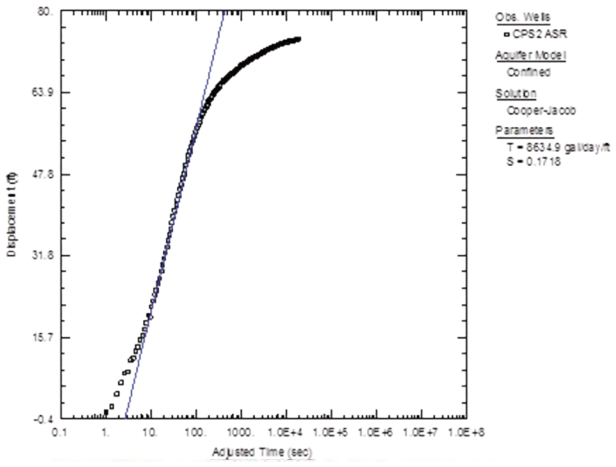
- Surficial Aquifer System (SAS)
- Intermediate Aquifer System (IAS), also referred to as the Intermediate Confining Unit

- Floridan Aquifer System (FAS) — The FAS is subdivided into the Upper Floridan Aquifer (UFA) and Lower Floridan Aquifer (LFA). The WUP authorizes up to 2 MGD from six IAS production wells, and up to 7 MGD from four UFA production wells, for a total of 9 MGD; therefore, both hydrostratigraphic units must be evaluated to understand yield and potential raw water mixing ratios.

Hydrogeologic Understanding

The SAS is unconfined and consists of unconsolidated siliciclastic deposits and is primarily recharged by infiltration from rainfall. At the PRF, aquifer systems underlying the SAS have greater potentiometric elevations and, therefore, exhibit an upward flow gradient. Consequently, most water movement in the SAS is lateral and is typically governed by topography, with groundwater flows moving away from areas of higher elevation and towards lower areas such as streams, lakes, or wetlands.

The Intermediate Confining Unit (IAS) is a complex sequence of interbedded, variably consolidated, sediments predominately associated with the Arcadia Formation, which is comprised of two permeable zones (PZs), referred to as the Upper Arcadia zone (or PZ2) and the Lower Arcadia zone (or PZ3). The Lower Arcadia zone is often more productive, exhibits artesian flow, and has greater confinement from the overlying SAS. The Lower Arcadia zone has been identified as occurring at depths between 200 to 350 feet bls and is fresh to slightly brackish, with an average TDS concentration of approximately 550 mg/L. Production capacity from the Lower Arcadia can be highly variable, however, individual wells finished into this zone can produce between 0.3 to 1 MGD. Care must be taken during well construction to avoid having the open hole constructed into the underlying Nocatee Member of the Arcadia Formation, that occurs at depths of approximately 400 feet bls, due to the presence of loose, fine-grained quartz sand. Withdrawals from the Lower Arcadia zone are not anticipated to result in adverse impacts to the SAS due to the confining characteristics of a thick sequence of carbonates and clay overlying the permeable zone, however SWFWMD's newly released District-Wide Regulation Model Version 4 (DWRM4) indicates that permitted withdrawals from the Lower Arcadia zone may result in drawdowns in the SAS.



Data analysis is a critical component for supporting hydrogeological projects of all types.

The highly artesian Suwannee Limestone and Avon Park Formation permeable zones occur within the UFA and are separated by a semi-confining layer represented by the Ocala Limestone. The Suwannee Limestone permeable zone is currently used by the PRF for their Aquifer Storage and Recovery (ASR) system and extends from approximately 550 feet to 850 feet bls. The Suwannee Limestone permeable zone is more saline than the IAS with an average TDS concentration of approximately 1,000 mg/L. The Suwannee Limestone should be considered as a possible water supply source if testing determines that withdrawals will not adversely impact the PRF's operation of ASR Wellfield No. 2. Recent testing of several Suwannee Limestone ASR wells at the PRF indicate yields between 0.7 and 1.2 MGD. It should be noted that DWRM4 also indicates a significant upward movement of groundwater from the Avon Park Formation, through the Ocala Limestone semi-confining unit, when Suwannee Limestone production wells are simulated.

The Avon Park Formation is currently not utilized by the PRF; however, much testing

has occurred in this zone using a single ASR test well (AP-1), constructed in 1993. AP-1 has a reported open hole interval from 1,303 to 1,484 feet bls, however, geologic descriptions during its construction indicate that the top of the Avon Park Formation was encountered at approximately 1,000 feet bls. Testing at AP-1 indicates the presence of a highly permeable zone below 1,400 feet bls, and individual wells open to the highly fractured portions of the Avon Park Formation are highly productive and can yield between 3 to 5 MGD. Groundwater from the Avon Park Formation's permeable zone is also highly mineralized as evidenced by a 3-day pumping test performed in 1993 in which the TDS concentration increased from 1,500 mg/L to 2,800 mg/L. A longer 90-day pumping test was also conducted at AP-1 in 1994 where TDS concentrations stabilized between 3,000 and 3,400 mg/L. A more recent 8-hour pumping test was conducted in 2013 at a rate of 3 MGD and yielded a TDS value of 5,350 mg/L.

While AP-1's open hole interval results in its production being derived from the highly fractured zone below 1,400 feet bls, withdrawals from the upper Avon Park Formation, from approximately 1,000 to 1,350 feet bls, may present a more stable brackish source of groundwater. The water supply capabilities of the upper Avon Park Formation, that excludes the highly fractured zone, is expected to be lower and comparable to the overlying Suwannee Limestone permeable zone. As previously stated, water quality testing of AP-1 indicates a steady increase in dissolved constituents since its construction in 1993. Therefore, it will be imperative that the Testing Plan includes methodologies for determining a sustainable yield for the upper Avon Park Formation. Results from the Testing Plan may ultimately determine that a combination of Suwannee Limestone and upper Avon Park Formation production wells can satisfy the need for more stable source water quality, necessary to prolong the operational life of the proposed brackish groundwater wellfield. In addition, given the inherent differences in yield and water quality expressed by each brackish water production well, a Wellfield Management Plan (WMP) that employs production well rotation, VFDs, production well water quality guidance levels, and monitoring well trigger levels is considered essential.

3 Approach – Design, Oversight, Well Construction & Testing Program

Test Well Drilling Approach

The Black & Veatch team, working closely with RESPEC, will prepare a Brackish Wellfield Test Plan to identify sustainable yield and water quality of permeable zones with the IAS (Lower Arcadia zone) and the UFA (Suwannee Limestone and Avon Park Formation) as we determine the efficacy of the confining or semi-confining units above and below the respective permeable zones. We will prepare for and attend all project-related meetings with the PRF and relevant regulatory agencies. While the PRF's WUP has specifically identified the Avon Park Formation as a potential supply source, the Suwannee Limestone should also be evaluated to determine whether potential impacts to the PRF's existing ASR wellfield can be minimized. Therefore, the Test Plan must be designed to gather hydraulic information on the three permeable zones and associated confining units. In addition, after testing has been completed and final production well construction specifications determined, it is desirable that test wells be converted into finalized production wells. The overriding objective of the team's approach will be to provide the PRF with an understanding if there is a sustainable brackish water supply source from both yield and water quality perspectives.

With our understanding that the base of the USDW is at approximately 1,550 feet bls within the PRF's property boundary and our experience with brackish production wells in southwest Florida due to impacts in water quality from up-coning or fractures from more saline water at deeper depths, our team has recommended investigating the Suwannee Limestone aquifer



Black & Veatch's team of 10 Florida-based hydrogeologists has performed tens of thousands of hours of field construction oversight of well drilling operations, including test wells, brackish production wells, and UIC wells. The refined approach and lessons learned from these experiences enable our team to proactively manage risks and address challenges.

Key Elements of our Hydrogeological Approach:

- Engage subconsultants for continuity with prior Authority projects.
- Leverage Black & Veatch's deep in-house hydrogeological resources and local expertise to provide complete project leadership and single point of responsibility.
- Develop an optimized source water strategy by applying our thorough understanding of the local hydrogeology.
- Leverage Team experience with DWRM4 groundwater modeling to understand/mitigate interactions with the ASR wells.
- Design the wellfield to minimize water quality degradation over time and while designing the WTP with flexibility to adjust treatment for those trends.
- Leverage our relationship with well drilling contractors to support cost-effective and expedited test well construction.

as an alternative water supply source to the Avon Park Formation. We understand that the Suwannee Limestone aquifer is used for ASR. However, an approach utilizing multiple brackish aquifers, with upfront groundwater modeling and focused wellfield operations applying adaptive wellfield management tools, may be a better approach for long-term sustainability.

Design of Test Wells

A detailed design of the test wells will be performed specifying construction materials, construction sequence, and testing. To expedite the process, we have already prepared a sequence of work to not only test the Intermediate Aquifer and the Avon Park Formation, but the Black & Veatch team is proposing to also test the Suwannee Limestone as an alternative option. The detailed design effort for the test wells will be completed expeditiously so that the they are tested in a timely fashion to move forward with the 30% design of the transmission piping, water treatment plant, and other above ground engineering. If the data depicts long-term sustainable supply from the brackish aquifer(s), the Black & Veatch team will design the wellfield alignments and the wells using the District-Wide Regulation Model Version 4 (DWRM4) to minimize produced groundwater quality deterioration through time.

Once testing of the wells has been completed and identified as an alternative option, the Black & Veatch team will complete the 30% detailed design of aboveground facilities. The Black & Veatch team is familiar with the PRF's current infrastructure. During the design process, the Black & Veatch team will complete quality control reviews utilizing a multi-disciplinary team of professionals to ensure documents meet relevant design standards, are constructable, and are clear to understand.

Preparation of Technical Specifications and Bidding Services

The design documents will be included in the PRF's standard bid package to secure the services of a qualified well drilling company or a utilities contractor by June 2023. The project team will provide the bid document to three qualified drilling contractors (AC Schultes, Layne,

and Youngquist Brothers, Applied Drilling, and others). The qualifications will include availability, capability to complete the project successfully and safely, experience, and price.

Construction and Testing Services

The project team will prepare for and attend all pre-construction, construction progress, and other project-related meetings.

Prior to drilling the well, a well prognosis will be prepared detailing the site-specific location information, land elevation, anticipated subsurface hydrostratigraphic unit depths, casing setting and total depths, data collection program, geophysical logging program, and testing program. During drilling, a well-qualified and experienced well site geologist will be present throughout all contractor activities. In the morning of each day, a daily report will be prepared and transmitted via email to the PRF's project manager, briefly detailing the previous day's activities and lithologic, hydrostratigraphic, and water quality information. For the open-hole logs run at total depth, water quality versus depth analyses will be provided. At total depth, supervision of well development, specific capacity testing, acidization if needed, post-acidization specific capacity, constant rate pumping tests, and well disinfection will be provided.

The data obtained from the newly installed test well will be used to expeditiously update previous subsurface mapping (e.g., structure contour and dissolved chloride contour maps) and DWRM4 to provide the PRF with a recommendation for the construction of future production wells. The well testing and water quality information will be used to provide recommendations for the appropriate sustainable pumping rate.

Since schedule is critical, our team has proposed an approach to test multiple aquifers during the construction of one (1) test/production well. Our approach is as follows:

Intermediate Aquifer/Suwannee Limestone Aquifer/APPZ Zone 1 Construction and Testing Plan:

1. Drilling CONTRACTOR to mobilize to well site.
2. Installation of pit casing, to be determined by drilling contractor.
3. Drill pilot hole to the top of the top of the confining Tampa Member.
    a. Record mechanical deviation surveys approximately every 60 feet (two drill rods) and collect lithology samples at 10-foot intervals and/or at lithologic changes.
    b. Collect up to two (2) cores using Shelby Tubes during pilot hole drilling at depths selected by the ENGINEER within confining intervals of the Hawthorn Group (Arcadia).
4. Conduct geophysical logging (XY Caliper (XYC), Gamma Ray (GR), Dual Induction Log (DIL) with Spontaneous Potential (SP), and Borehole Compensated (BHCS) with Variable Density Log (VDL).
5. Conduct step-drawdown and 10-day single packer test followed by a recovery period of the Intermediate Aquifer. The duration of the test will be contingent on the quality of water in Avon Park Formation and the CONTRACTOR'S ability to manage the water produced from the well.
    a. Collect water samples every hour. These samples will be field analyzed for temperature, specific conductance, pH, and chloride.
    b. Collect water samples from Suwannee Limestone near the end of test for Primary and Secondary Water Quality analysis.
6. Resume pilot hole to approximately the top of the Suwannee Limestone.
    a. Record mechanical deviation surveys approximately every 60 feet (two drill rods) and collect lithology samples at 10-foot intervals and/or at lithologic changes.
    b. Collect up to four (4) cores using Shelby Tubes during pilot hole drilling at depths selected by the ENGINEER within confining intervals of the Hawthorn Group (within the Nocatee Member).
7. Conduct geophysical logging (XYC, GR, DIL with SP, and BHCS with VDL).

8. Ream nominal 24-inch diameter borehole to top of the Suwannee Limestone.
   a. Record mechanical deviation surveys at 60 feet intervals.
9. Conduct geophysical logging (XYC and GR).
10. Install and pressure grout 16-inch diameter Certa-Lok PVC casing with neat cement.
11. Drill pilot hole to base of the Suwannee Limestone.
    a. Record mechanical deviation surveys at intervals of approximately every 60 feet (two drill rods) and collect lithology samples at 10-foot intervals and/or at lithologic changes.
    b. Perform short-term (approximately 15-minute duration) drill stem specific capacity tests at approximately every 30-foot interval (i.e., every drill rod connection).
    c. Collect water samples at 30-foot to 45-foot intervals (i.e., every drill rod connection). These samples will be field analyze for temperature, specific conductance, pH, and chloride.
12. Conduct geophysical logging (XYC, GR, DIL with SP, BHCS with VDL, and video survey or Optical Borehole Imager [OBI]).
13. Conduct static and dynamic geophysical logging (Fluid Conductivity and Temperature [FCT] and Flowmeter).
14. Conduct a step-drawdown and 10-day constant rate pump test followed by a recovery period on the Suwannee Limestone. The duration of the test will be contingent on the quality of water in the Suwannee Limestone aquifer and the CONTRACTOR'S ability to manage the water produced from the well.
    a. Collect water samples every hour. These samples will be field analyze for temperature, specific conductance, pH, and chloride.
    b. Collect water samples from Suwannee Limestone near the end of test for Primary and Secondary Water Quality analysis.
15. Resume pilot hole drilling activities to approximately 1,350 feet bls (Avon Park Formation).
    Note: Based on previous data from an exploratory well drilled to 3,505 feet bls into the on Lower Floridan aquifer, the base of the Underground Source of Drinking Water was identified at approximately 1,504 feet bls and is generally considered to be located at a depth of 1,550 feet bls within the project site area. It is recommended not to drill any deeper than 1,350 feet bls at risk of potential up-coning of higher salinity groundwater.
    a. Record mechanical deviation surveys approximately every 60 feet interval (two drill rods) and collect lithology samples at 10-foot intervals and/or at lithologic changes.
    b. Perform short-term (approximately 15-minute duration) drill stem specific capacity tests approximately every 30-foot interval (i.e., every drill rod connection).
    c. Collect water samples at 30-foot to 45-foot intervals (i.e., every drill rod connection). These samples will be field analyze for temperature, specific conductance, pH, and chloride.
    d. Collect up to two (2) rock cores during pilot hole drilling at depths selected by the ENGINEER within confining intervals of the Ocala Limestone.
16. Conduct geophysical logging (XYC, GR, DIL with SP, BHCS with VDL, and video survey or OBI).
17. Conduct static and dynamic geophysical logging (FCT and Flowmeter).
18. Conduct step-drawdown and 10-day single packer test followed by a recovery period of the Avon Park Formation. The duration of the test will be contingent on the quality of water in Avon Park Formation and the CONTRACTOR'S ability to manage the water produced from the well.
    a. Collect water samples every hour. These samples will be field analyze for temperature, specific conductance, pH, and chloride.

b. Collect water samples from Suwannee Limestone near end of test Primary and Secondary Water Quality analysis.

19. Conduct a step-drawdown and 10-day constant rate pump test followed by a recovery period on the Suwannee Limestone/Ocala Limestone/Avon Park Formation. The duration of the test will be contingent on the quality of water in the Suwannee Limestone aquifer and the CONTRACTOR'S ability to manage the water produced from the well.
    a. Collect water samples every hour. These samples will be field analyze for temperature, specific conductance, pH, and chloride.
    b. Collect water samples from Suwannee/ Ocala Limestone and Upper Avon Park Formation near end of test Primary and Secondary Water Quality analysis.

Note: During all testing activities for each phase, water levels will be monitored in the Lower Arcadia permeable zone test-production well, the Suwannee Limestone above the packers, in addition to the Authority's ASR Wellfield No. 2 production and monitoring wells. All testing in the UFA should be performed when the PRF is not actively injecting or withdrawing from their ASR wells. Parameters of transmissivity, storage, and leakance for the aquifers will be determined and used in the updated (site-specific) DWRM4 model to complete an updated DWRM4 model for the PRF if deemed necessary. Discharged water from the aquifers will need to be routed to the Authority's small reservoir due to elevated TDS concentrations.

After discrete testing is completed for the Suwannee Limestone and upper Avon Park Formation, a combination test (Ocala Limestone packers removed) will be performed to ascertain production and water quality characteristics from a well open to the Suwannee/Ocala Limestones and the upper Avon Park Formation.

The proposed Suwannee/Avon Park Test Plan approach includes considerable flexibility in that the second test-production well could be finalized as follows:

- Exclusively a Suwannee Limestone well via back-plugging of the deeper pilot hole and reaming out the pilot hole to an appropriate diameter; or
- A combination Suwannee/Ocala/upper Avon Park well by reaming-out the entire pilot-hole depth; or
- Exclusively an upper Avon Park Formation well by the installation of a tertiary and final casing telescoped inside the intermediate casing that was terminated at the top of the Suwannee Limestone and reaming to the nominal diameter of the final casing.

Based on the proposed comprehensive testing of the IAS and FAS, a final production well design will be recommended. It should be noted that depending on the final production well design, the WUP may require Formal Modification and use of the site-specific groundwater flow model if deemed necessary.

Approach for 30% Design of IAS PZ-3 Production Well & DIWs for Concentrate Disposal

IAS PZ3 Design

Our approach with the IAS Test Well would be that after all testing is conducted and analyzed, it would then be completed as a 12-diameter Certa-Lok PVC production well. The 30% design would be completed for the well facilities and the raw water pipeline.

Deep Injection Well Design (30%) Summary

The Black & Veatch Team, working closely with ASRus, will work with the PRF to design a deep injection well system that will meet state and federal Class I Industrial standards for disposal of concentrate brine adjacent to the PRF's RO facility. It is important to note that a dual zone monitoring well (DZMW) must also be constructed within 150 feet of the DIW. The Black & Veatch team will utilize the information collected from the Exploratory Well completed in July 2012 to a total depth of 3,505 feet bls. Based on an exploratory well being completed and having site specific data completed to 3,505

feet bls, it is recommended that the PRF submit for a Class I Industrial Injection Well construction permit. Permitting duration is anticipated to be 12 to 18 months in duration.

The LFA was identified as the most optimal injection zone from approximately 2,200 feet to 3,300 feet bls. Based on the exploratory well drilling, the Base of the USDW was identified at approximately 1,505 feet bls. We will schedule a meeting with the PRF to discuss alternate tubing and packer designs (i.e., fluid filled or cemented in annulus). Our focus will be to minimize operations and maintenance of the DIW system for the PRF. **With the information provided from the exploratory well, the downhole design of the well could be easily completed to 90% while the well facilities, electrical and piping would be designed to 30%.**

The anticipated capacity of the LFA during testing of the exploratory well was anticipated to be up to 5 MGD and be able to inject optimally between 1 to 3 MGD. This would be sufficient for a 9-MGD brackish wellfield assuming 70% recovery. Unless there would be a plan to increase the raw water capacity in the future, our recommendation would be to design the DIW with 10.72-inch inside diameter injection tubing with a cemented in annulus and a 16-inch inside diameter seamless steel final casing, the PRF would have up to 2,813 gpm (4.05 MGD) injection capacity. Per regulatory requirements of F.A.C. Chapters 62-528.415 (Operation Requirements for Class I and III Wells), the maximum velocity of injected fluid shall not exceed 10 feet per second (fps) at the point where the mechanical limits of the well design or structure of the formation will be adversely affected or exceed maximum allowable stress of the materials used to construct the well. There may be a need for a redundant injection well as a back-up for mechanical integrity testing or if there would be a need for rehabilitation completed on the DIW.

Surface conveyance piping will consist of appropriately sized material based on the results of a hydraulic and corrosion analysis. In addition, a hydraulic surge analysis will be completed to determine the level of surge and pressure transient effects to the injection wells and surface piping. The Black & Veatch team will recommend the use of components to safe-guard against surge, appropriately sized air-vacuum relief valves, and a motorized control valve located near the injection wellhead, which can be closed slowly to reduce pressure transient effects to the injection well.

Components to continuously measure and record injection flowrates, with totalized volume along with wellhead pressure, are required by FDEP's Aquifer Protection Program (formerly UIC) rules. An appropriately sized magnetic flow meter or differential pressure orifice will meet these requirements. Redundant automated pressure indicators/ transmitters will be installed on the surface piping for constant wellhead pressure monitoring. Electrical, instrumentation, and control components will meet the operational and monitoring requirements for the DIW System.

The above components will be included in the final design, which will consist of a set of technical specifications and detailed engineering drawings for the construction and upgrades of the injection well systems, surface piping, civil and electrical, instrumentation components and injection pumping system that will be explained in the O&M Manual.

4 Understanding of SWFWMD WUP Rule Criteria & Policies

After the test well location is selected and a preliminary design of the subsurface portion of the wells is done, the PRF's current Southwest Florida Water Management District (SWFWMD) water use permit (#20-010420-010) will be modified to include the new proposed well sites. Past water-use and population demands will be used to determine the per capita rate to be used for the calculation of the future demands. Population projections and demands for the next 20 years will be determined and used to calculate the allocations and number of wells in the water use permit application. The full water use permit modification will

include all preliminary locations for production wells. Subsequent letter modifications will be conducted to adjust any well locations needed due to land acquisition considerations. Update of the hydraulic (water level) and solute transport (water quality) groundwater modeling, applying SWFWMD's Districtwide Regulation Model Version 4 (DWRM4), will be conducted during the full water use permit modification and letter modifications. The Black & Veatch team will address any SFWMD requests for additional information during the permitting process.

The PRF is located within SWFWMD's Southern Water Use Caution Area (SWUCA). The SWUCA was designated by the SWFWMD in 1992 to address declining UFA levels primarily due to groundwater withdrawals. The area encompasses approximately 5,100 square miles, including all of DeSoto, Hardee, Manatee and Sarasota counties, and parts of Charlotte, Highlands, Hillsborough and Polk counties.

There are three main areas of concern within the SWUCA:

- Reduced flows in the Upper Peace River.
- Reduced lake levels in the Ridge Lakes area (extends roughly 90 miles along the center of the state in Polk and Highlands counties).
- Rate of saltwater intrusion into the UFA along the coast, especially in the Most Impacted Area (MIA), an area encompassing about 708 square miles located along the coast of southern Hillsborough, Manatee and northwestern Sarasota counties.

In response to the concerns listed above, SWFWMD adopted the SWUCA Recovery Strategy in 2006 and is implementing the strategy over a 20-year period. The four principal goals of the Recovery Strategy to achieve by 2025 includes the following:

- Achieve minimum flows in the upper Peace River.
- Achieve Minimum Lake Levels in lakes along the Lake Wales Ridge.
- Achieve the saltwater intrusion Minimum Aquifer Level.
- Ensure water supply needs are met for existing and projected reasonable and beneficial uses.

To ensure the success of the Recovery Strategy, the SWFWMD implemented Minimum Flows and Levels (MFLs) in the SWUCA. An MFL is the limit at which further withdrawals would be significantly harmful to the water resources or ecology. SWFWMD continues to evaluate waterbodies within the SWUCA and adopt additional MFLs as needed. The Recovery Strategy also introduced the concept of a "Net Benefit" to provide additional flexibility in situations where existing rules, coupled with water supply planning and water resource development projects, are not adequate to achieve the Recovery Strategy goals. The Recovery Strategy also relies upon cumulative impact analyses in the form of groundwater flow modeling to evaluate changes in permitted and used groundwater quantities in and around the MIA. The MIA is an area of greater concern that includes portions of Hillsborough, Manatee and Sarasota Counties where salt-water intrusion has historically occurred within the SWUCA. The Salt-Water Intrusion Minimum Aquifer Level (SWIMAL) was developed in 2002 to slow the rate of salt-water intrusion in the MIA. No new impacts to the MIA are currently allowed under SWFWMD Rule.

District-Wide Regulation Model Version 4.0 (DWRM4)

Currently, the SWFWMD utilizes the DWRM4 as its main groundwater impact analysis modeling tool. The version of the DWRM will be utilized for any modification of the WUP that includes either a redistribution or increase in quantities. The DWRM4 is the first fully 3D version of the DWRM (both permeable zones and confining units are simulated as active layers) whereas previous versions of the DWRM were quasi-3D (confining units were simulated using a leakance value between permeable zones). The DWRM4 also uses MODFLOW-USG, whereas previous versions used MODFLOW 2000 and MODFLOW 2005. The "USG" in MODFLOW-USG stands for "Unstructured Grid," which allows MODFLOW

to utilize smaller grid spacing within the "Focus Area" that includes the Permittee or Applicant's groundwater withdrawals without the need for a grid expansion factor. In addition, each Focus model developed using DWRM4 now simulates the entire model domain, whereas the previous versions of DWRM could be configured to create smaller sub-models.

Water Use Permitting Considerations for a Brackish Wellfield at the PRF

The PRF is approximately 12 miles southwest of the MIA, which is associated with the SWIMAL as previously discussed. In accordance with SWFWMD Rules, all WUP applications will be evaluated for their potential impact on the SWIMAL utilizing a cumulative impact assessment (i.e., groundwater flow modeling) based upon the best available information. As previously stated, DWRM4 represents the SWFWMD's "best available tool" for assessing potential impacts due to proposed groundwater withdrawals. Based on current SWFWMD Rules, a proposed withdrawal is determined to adversely impact the SWIMAL if it causes any lowering of the Floridan Aquifer potentiometric surface greater than approximately 0.0 feet (0.049 feet of drawdown) within the MIA, including at the boundary of the MIA. If an impact evaluation (i.e., groundwater flow simulation) indicates that a proposed withdrawal will result in increased impacts to the SWIMAL, the SWFWMD will only approve the application if the Applicant proposes to implement a form of groundwater offset whether that be a self-relocation of existing permitted quantities or a "Net Benefit" in the form of Mitigation Plus Recovery.

In addition, all WUP applications are assessed on their potential impacts to environmental features, including potential impacts to wetlands, rivers and streams.

All WUP applications for increases in groundwater withdrawals will also be assessed to determine if there is a potential for legal existing users of groundwater to be adversely impacted by the proposed withdrawal(s).

The groundwater flow modeling results will also be used to assess potential impacts on other Minimum Flows and Levels (MFLs) including the Upper Peace, Ridge Lakes, MFL Lakes and Guidance Lakes. Both the Upper Peace and Ridge Lakes have target aquifer levels set by the SWFWMD. A lowering of the UFA potentiometric surface that causes the long-term UFA water level to decrease below the target levels set in SWFWMD Rule for either the Upper Peace or Ridge Lakes is not permittable. An assessment of which lakes have adopted MFL minimum levels and guidance levels as well as which lakes are meeting their minimum and guidance levels will also be required. Depending on whether an individual lake is meeting its minimum or guidance level will establish whether additional analysis is required to determine if groundwater withdrawals at the PRF will adversely impact the lake.

All of RESPEC's key personnel on the Black & Veatch team, are former SWFWMD Water Use Permit Evaluators and have decades of experience with Water Use Permitting as well as the impact analyses necessary to successfully permit a redistribution of existing permitted quantities or additional groundwater quantities if required. All three Key Personnel were permit evaluators when DWRM Version 1 first became available in 2004.

5 Understanding & Approach to SCADA

Black & Veatch's approach to SCADA design is to connect back to the WTP and integrate directly to the plant and also interface with the PRF's existing SCADA System at the Peace River Facility by either via radio telemetry or fiber-optic cable. Black & Veatch is familiar with both options and experienced with design and installation of fiber-optic cable through our work in the telecommunications industry. Due to the remote location of the wells, radio telemetry may be a cost-effective alternative compared to fiber-optic cable. However, since the project will include installation of new raw water transmission mains to the wells, the fiber conduit could be installed



Examples of Black & Veatch-developed Well Management Application dashboards.

along with the pipelines at a small additional cost. When installing fiber-optic cable, it is best practice to install a spare conduit for redundancy and to support future expansion.

To facilitate monitoring performance and management of the wellfield, **Black & Veatch has developed a Wellfield Monitoring Application using Power BI, which can directly connect to a Historian or HachWIMS style database. This application enables easy-to-understand metric tracking and can be visually shared via secure Microsoft Azure environment to operators and decision makers.** Parameters we propose to monitor through the Power BI dashboard include the following:

- Visualization of Key Performance Indicators (KPIs), specifically related to well performance, water quality and compliance with water use permitting.
- Combining graphical and spatial features of Geographic Information System (GIS) with monthly operational data.
- Decision support for the management and operation of a wellfield, based on the analysis of period of record data using business rules and industry standards.

6 Opinion of Probable Cost

There has been perhaps no period in recent history when such high pricing volatility and rapidly increasing costs have been experienced in the construction market, with contributing factors including an inflationary economy, equipment and material scarcity, labor shortage, and less competitive construction pricing related to high workload reduced competition.

Development of an accurate cost estimate in this market requires a skillset and construction market insights that go well beyond a typical engineering estimate approach. Black & Veatch is an industry-leading contractor, building more than $2 billion of infrastructure, mainly in the water and electrical sectors. We develop estimates utilizing experienced, full-time professional estimators, many of whom are Certified Cost Engineers and members of the Association for the Advancement of Cost Engineering, and the American Society of Professional Estimators. Black & Veatch's experience gives us a broad perspective of the construction market and industry connections to support accurate estimating.

Our estimating team has developed and maintains sophisticated proprietary databases and models that our estimators utilize to get the latest pricing and escalation data, which leads to more accurate OPCCs and enables more frequent OPCC updates.

In addition, we will leverage Black & Veatch's Operations Technology Group, including two local licensed WTP operators, to support life-cycle cost evaluation of alternatives with an expert understanding of O&M costs.

Benefits of Black & Veatch's $2 Billion/Year Construction Experience

We will leverage our construction market insight and unique expertise to reduce project costs:

- Leverage supply chain/cost expertise to evaluate/select equipment and materials of construction
- Structure contractor procurement/bid documents to promote competition and lower pricing
- Perform contractor outreach through our broad network of contacts to promote project interest
- Apply expert estimating resources for accurate OPCC and budget management

5 Well Construction Contractor Approach

Minimum Qualifications for Well Construction Contractor

A qualified well construction contractor will be needed to construct test wells to successfully obtain the lithologic and hydraulic data necessary to determine the feasibility and longevity of a successful brackish groundwater wellfield.

Well Contractor Minimum Qualifications

Required License

- Florida Licensed Water Well Contractor and State Certified General Contractor.

Experience with Floridan Aquifer Test Wells

- At least five Floridan Aquifer wells
- Minimum casing diameter of 16-inch
- Minimum depth of 1,500 feet
- Within the last five years

Experience in Coring, Geophysical Logging, Packer Testing & Long-Term Pumping Tests

- Documentation to show coring, geophysical logging, packer testing (single and straddle) and long-term aquifer performance tests at five Floridan Aquifer wells with the last five years.
- Documentation to show managing of formation water pumping at rates from 200 gpm to 1,000 gpm for five Floridan Aquifer wells within the last five years.

Key Personnel Experience

- Project Manager and Superintendent/Lead Driller must have project experience similar to this project and must have successfully completed at least one Floridan Aquifer well.
- Provide documentation to show the experience and qualifications of the Project Manager and Superintendent/Lead Driller.
- Project Manager and Lead Driller must be available during all working hours throughout the duration of the project.

Contracting & Coordination with the Well Construction Contractor

Black & Veatch has developed standard subcontracting agreements suitable for engaging various types of services, including a version specifically tailored for geotechnical and drilling services where the subcontractor's on-site presence and activity are more substantial than some other services such as surveying. We have previously engaged local well drilling contractors using that agreement. Our established procedure for contracting with a well drilling contractor will include prequalification based on the criteria above in addition to applicable safety requirements.

Black & Veatch understands that the Authority would like us to bring a qualified contractor onto our team prior to negotiating Work Order No. 1 at the Authority's Board meeting to be held in June 2023. **We have already been in discussions with Youngquist Brothers, Layne, Applied Drilling, and AC Schultes as potential drilling contractors to perform the work in a timely matter. We have been given verbal commitments by three of the drilling contractors, to date, that they could be ready to drill by August 2023, pending finalizing the contractual terms and obtaining an NTP.**

Black & Veatch/RESPEC will support field oversight during test well construction and testing activities. There will be daily correspondence with the project team (Authority, Black & Veatch, and drilling contractor) to track progress and address any unknowns (i.e., adverse downhole conditions, drill rig malfunctions, etc.) that may occur during the life of the project to minimize any downtime or extension of the schedule.

6 Required Forms

- Key Personnel Chart (Attachment A)
- E-Verify Affidavit and Required Evidence
- Signed Sworn Statement under Section 287.133(3)(a), Florida Statutes, on Public Entity Crimes
- Reference Forms (List of three (3) client staff that the Authority can contact as references with respect to three of the Consultant's Project Examples presented in this SOQ)

Key Personnel Chart (Attachment A)

Key Personnel	Key Staff Role on Design-Build Team	Employer	Years of Exp	Assigned Office City/State	**Reference Project No. 1** Fort Myers WTP Facility Plan & WTP RO Treatment Improvements	**Reference Project No. 2** Tampa Bay Water RO Desalination WTP Engineering Services	**Reference Project No. 3** City of Venice RO WTP Upgrades	**Reference Project No. 4** JEA Water Purification Demonstration Project	**Reference Project No. 5** EMWD Perris II Desalter Facility - Phase I	**Reference Project No. 6** Santa Monica Charnock Well Field Restoration Progressive-Design-Build Project	**Reference Project No. 7** Fort Myers Wellfield Expansion	**Reference Project No. 8** Sarasota County Wellfield Assessment	**Reference Project No. 9** MDWASD Hydrogeological Service Program and Ocean Outfall Injection Well Program	**Reference Project No. 10** (RESPEC) PRMRWSA General Hydrologic/ Hydrogeologic Services	**Reference Project No. 11** (ASRus) Manatee Co. Deep Injection Well Expansion
Mark Martin, PE	Project Manager	Black & Veatch	35	Fort Myers, FL	x		x				x				
Mike McGee, PE, BCEE	Engineering Manager	Black & Veatch	32	Fort Myers, FL	x		x	x			x				
Arturo Burbano, PhD, PE, PMP, BCEE	Technical Advisor - Water Treatment	Black & Veatch	31	Coral Gables, FL	x	x		x					x		
Jay DeCarolis, PE	Lead Water Treatment Process	Black & Veatch	25	Phoenix, AZ	x		x	x	x						
Ryan Eck, PE	Treatment Plant Facilities Design	Black & Veatch	12	Tampa, FL	x	x	x								
Sam Miller, PE	Well Surface Facilities	Black & Veatch	8	Orlando, FL							x	x	x		
Erin Briggeman, PE	Chemical Storage/Feed	Black & Veatch	22	Overland Park, KS			x	x							
Ron Parker	Operational Considerations	Black & Veatch	41	Tampa, FL	x	x	x		x						
Vasu Veerapaneni, PhD, PE	Desalination Specialist	Black & Veatch	36	Overland Park, KS	x	x	x	x	x	x					
Amanda Schwerman, PE	Pumping & Hydraulics	Black & Veatch	18	Tampa, FL	x	x	x								
Olena Lytvyn, PE	Pipelines	Black & Veatch	12	Coral Gables, FL				x			x		x		
Ed Rectenwald, PG, PMP	Lead Hydrogeologist	Black & Veatch	28	Fort Myers, FL		x		x			x	x	x		
George Schlutermann, PG	Hydrogeological Support	Black & Veatch	34	Florida (field)											
Joe Haber, PG	Brackish Water Supply Wells	RESPEC	23	Lutz, FL										x	
David Brown, PG	Brackish Water Supply Wells	RESPEC	40	Lutz, FL										x	
Pete Larkin, PG	Concentrate Disposal Well	ASRus	22	Tampa, FL											x
Anamaria Sarmiento, PG	Concentrate Disposal Well	Black & Veatch	10	Coral Gables, FL							x	x	x		
Indicate (X) this row if the reference project was completed for the Authority.														x	

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Consultant shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Consultant employees hired on and after January 1, 2021. Additionally, Consultant shall require all subconsultants performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Consultant must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement

Affidavit

I hereby certify that Black & Veatch Corporation (Contract holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of Black & Veatch Corporation's (Contract holder) proof of registration in the E-Verify system is attached to this Affidavit.

2/28/23

Signature Date

Rafael E. Frias, III, PE

Print Name

STATE OF Florida

COUNTY OF Broward

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 28 day of February, 2023 by Rafael E. Frias III, Vice President (name of officer or agent, title of officer or agent) of Black & Veatch (name of Consultant company acknowledging), a Delaware (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced N/A (type of identification) as identification.

Notary Public

Alexis Mungal

Name typed, printed or stamped

ALEXIS MUNGAL
Notary Public-State of Florida
Commission # HH 351519
My Commission Expires
January 19, 2027

My Commission Expires: January 19, 2027

Company ID Number: 11557 **Client Company ID Number:** 771013

THE E-VERIFY
MEMORANDUM OF UNDERSTANDING
FOR EMPLOYERS USING AN E-VERIFY EMPLOYER AGENT

ARTICLE I
PURPOSE AND AUTHORITY

The parties to this agreement are the Department of Homeland Security (DHS), the Black & Veatch Corporation (Employer), and the E-Verify Employer Agent. The purpose of this agreement is to set forth terms and conditions which the Employer and the E-Verify Employer Agent will follow while participating in E-Verify.

E-Verify is a program that electronically confirms an employee's eligibility to work in the United States after completion of Form I-9, Employment Eligibility Verification (Form I-9). This Memorandum of Understanding (MOU) explains certain features of the E-Verify program and describes specific responsibilities of the Employer, the E-Verify Employer Agent, the Social Security Administration (SSA), and DHS.

Authority for the E-Verify program is found in Title IV, Subtitle A, of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA), Pub. L. 104-208, 110 Stat. 3009, as amended (8 U.S.C. § 1324a note). The Federal Acquisition Regulation (FAR) Subpart 22.18, "Employment Eligibility Verification" and Executive Order 12989, as amended, provide authority for Federal contractors and subcontractors (Federal contractor) to use E-Verify to verify the employment eligibility of certain employees working on Federal contracts.

ARTICLE II
RESPONSIBILITIES

A. RESPONSIBILITIES OF THE EMPLOYER

1. The Employer agrees to display the following notices supplied by DHS in a prominent place that is clearly visible to prospective employees and all employees who are to be verified through the system:

   a. Notice of E-Verify Participation

   b. Notice of Right to Work

2. The Employer agrees to provide to the SSA and DHS the names, titles, addresses, and telephone numbers of the Employer representatives to be contacted about E-Verify. The Employer also agrees to keep such information current by providing updated information to SSA and DHS whenever the



Company ID Number: 11557 **Client Company ID Number:** 771013

representatives' contact information changes.

3. The Employer shall become familiar with and comply with the most recent version of the E-Verify User Manual. The Employer will obtain the E-Verify User Manual from the E-Verify Employer Agent.

4. The Employer agrees to comply with current Form I-9 procedures, with two exceptions:

a. If an employee presents a "List B" identity document, the Employer agrees to only accept "List B" documents that contain a photo. (List B documents identified in 8 C.F.R. 274a.2(b)(1)(B)) can be presented during the Form I-9 process to establish identity.) If an employee objects to the photo requirement for religious reasons, the Employer should contact E-Verify at 1-888-464-4218.

b. If an employee presents a DHS Form I-551 (Permanent Resident Card), Form I-766 (Employment Authorization Document), or U.S. Passport or Passport Card to complete I-Form I-9, the Employer agrees to make a photocopy of the document and to retain the photocopy with the employee's Form I-9. The Employer will use the photocopy to verify the photo and to assist DHS with its review of photo mismatches that employees contest. DHS may in the future designate other documents that activate the photo screening tool.

Note: Subject only to the exceptions noted previously in this paragraph, employees still retain the right to present any List A, or List B and List C, document(s) to complete the Form I-9.

5. The Employer agrees to record the case verification number on the employee's Form I-9 or to print the screen containing the case verification number and attach it to the employee's Form I-9.

6. The Employer agrees that, although it participates in E-Verify, the Employer has a responsibility to complete, retain, and make available for inspection Forms I-9 that relate to its employees, or from other requirements of applicable regulations or laws, including the obligation to comply with the antidiscrimination requirements of section 274B of the INA with respect to Form I-9 procedures.

a. The following modified requirements are the only exceptions to an Employer's obligation to not employ unauthorized workers and comply with the anti-discrimination provision of the INA: (1) List B identity documents must have photos, as described in paragraph 5 above; (2) When an Employer confirms the identity and employment eligibility of newly hired employee using E-Verify procedures, the Employer establishes a rebuttable presumption that it has not violated section 274A(a)(1)(A) of the Immigration and Nationality Act (INA) with respect to the hiring of that employee; (3) If the Employer receives a final nonconfirmation for an employee, but continues to employ that person, the Employer must notify DHS and the Employer is subject to a civil money penalty between $550 and $1,100 for each failure to notify DHS of continued employment following a final nonconfirmation; (4) If the Employer continues to employ an employee after receiving a final nonconfirmation, then the Employer is subject to a rebuttable presumption that it has knowingly employed an unauthorized alien in violation of section 274A(a)(1)(A); and (5) no E-Verify participant is civilly or criminally liable under any law for any action taken in good faith based on information provided through the E-Verify.

b. DHS reserves the right to conduct Form I-9 compliance inspections, as well as any other enforcement or compliance activity authorized by law, including site visits, to ensure proper use of E-Verify.

Company ID Number: 11557 **Client Company ID Number:** 771013

7. The Employer is strictly prohibited from creating an E-Verify case before the employee has been hired, meaning that a firm offer of employment was extended and accepted and Form I-9 was completed. The Employer agrees to create an E-Verify case for new employees within three Employer business days after each employee has been hired (after both Sections 1 and 2 of Form I-9 have been completed), and to complete as many steps of the E-Verify process as are necessary according to the E-Verify User Manual. If E-Verify is temporarily unavailable, the three-day time period will be extended until it is again operational in order to accommodate the Employer's attempting, in good faith, to make inquiries during the period of unavailability.

8. The Employer agrees not to use E-Verify for pre-employment screening of job applicants, in support of any unlawful employment practice, or for any other use that this MOU or the E-Verify User Manual does not authorize.

9. The Employer must use E-Verify (through its E-Verify Employer Agent) for all new employees. The Employer will not verify selectively and will not verify employees hired before the effective date of this MOU. Employers who are Federal contractors may qualify for exceptions to this requirement as described in Article II.B of this MOU.

10. The Employer agrees to follow appropriate procedures (see Article III below) regarding tentative nonconfirmations. The Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Employer agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Employer agrees to provide written referral instructions to employees and instruct affected employees to bring the English copy of the letter to the SSA. The Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending. Further, when employees contest a tentative nonconfirmation based upon a photo mismatch, the Employer must take additional steps (see Article III.B below) to contact DHS with information necessary to resolve the challenge.

11. The Employer agrees not to take any adverse action against an employee based upon the employee's perceived employment eligibility status while SSA or DHS is processing the verification request unless the Employer obtains knowledge (as defined in 8 C.F.R. § 274a.1(l)) that the employee is not work authorized. The Employer understands that an initial inability of the SSA or DHS automated verification system to verify work authorization, a tentative nonconfirmation, a case in continuance (indicating the need for additional time for the government to resolve a case), or the finding of a photo mismatch, does not establish, and should not be interpreted as, evidence that the employee is not work authorized. In any of such cases, the employee must be provided a full and fair opportunity to contest the finding, and if he or she does so, the employee may not be terminated or suffer any adverse employment consequences based upon the employee's perceived employment eligibility status (including denying, reducing, or extending work hours, delaying or preventing training, requiring an employee to work in poorer conditions, withholding pay, refusing to assign the employee to a Federal contract or other assignment, or otherwise assuming that he or she is unauthorized to work) until and unless secondary verification by SSA or DHS has been completed and a final nonconfirmation has been issued. If the employee does not choose to contest a tentative nonconfirmation or a photo mismatch or if a secondary verification is completed and a final nonconfirmation is issued, then the Employer can find the employee is not work authorized and terminate the employee's employment.

Company ID Number: 11557 **Client Company ID Number:** 771013

Employers or employees with questions about a final nonconfirmation may call E-Verify at 1-888-464-4218 (customer service) or 1-888-897-7781 (worker hotline).

12. The Employer agrees to comply with Title VII of the Civil Rights Act of 1964 and section 274B of the INA as applicable by not discriminating unlawfully against any individual in hiring, firing, employment eligibility verification, or recruitment or referral practices because of his or her national origin or citizenship status, or by committing discriminatory documentary practices. The Employer understands that such illegal practices can include selective verification or use of E-Verify except as provided in part D below, or discharging or refusing to hire employees because they appear or sound "foreign" or have received tentative nonconfirmations. The Employer further understands that any violation of the immigration-related unfair employment practices provisions in section 274B of the INA could subject the Employer to civil penalties, back pay awards, and other sanctions, and violations of Title VII could subject the Employer to back pay awards, compensatory and punitive damages. Violations of either section 274B of the INA or Title VII may also lead to the termination of its participation in E-Verify. If the Employer has any questions relating to the anti-discrimination provision, it should contact OSC at 1-800-255-8155 or 1-800-237-2515 (TDD).

13. The Employer agrees that it will use the information it receives from E-Verify (through its E-Verify Employer Agent) only to confirm the employment eligibility of employees as authorized by this MOU. The Employer agrees that it will safeguard this information, and means of access to it (such as PINS and passwords), to ensure that it is not used for any other purpose and as necessary to protect its confidentiality, including ensuring that it is not disseminated to any person other than employees of the Employer who are authorized to perform the Employer's responsibilities under this MOU, except for such dissemination as may be authorized in advance by SSA or DHS for legitimate purposes.

14. The Employer agrees to notify DHS immediately in the event of a breach of personal information. Breaches are defined as loss of control or unauthorized access to E-Verify personal data. All suspected or confirmed breaches should be reported by calling 1-888-464-4218 or via email a E-Verify@dhs.gov. Please use "Privacy Incident – Password" in the subject line of your email when sending a breach report to E-Verify.

15. The Employer acknowledges that the information it receives through the E-Verify Employer Agent from SSA is governed by the Privacy Act (5 U.S.C. § 552a(i)(1) and (3)) and the Social Security Act (42 U.S.C. 1306(a)). Any person who obtains this information under false pretenses or uses it for any purpose other than as provided for in this MOU may be subject to criminal penalties.

16. The Employer agrees to cooperate with DHS and SSA in their compliance monitoring and evaluation of E-Verify (whether directly or through their E-Verify Employer Agent), which includes permitting DHS, SSA, their contractors and other agents, upon reasonable notice, to review Forms I-9 and other employment records and to interview it and its employees regarding the Employer's use of E-Verify, and to respond in a prompt and accurate manner to DHS requests for information relating to their participation in E-Verify.

17. The Employer shall not make any false or unauthorized claims or references about its participation in E-Verify on its website, in advertising materials, or other media. The Employer shall not describe its services as federally-approved, federally-certified, or federally-recognized, or use language with a

Company ID Number: 11557 **Client Company ID Number:** 771013

similar intent on its website or other materials provided to the public. Entering into this MOU does not mean that E-Verify endorses or authorizes your E-Verify services and any claim to that effect is false.

18. The Employer shall not state in its website or other public documents that any language used therein has been provided or approved by DHS, USCIS or the Verification Division, without first obtaining the prior written consent of DHS.

19. The Employer agrees that E-Verify trademarks and logos may be used only under license by DHS/USCIS (see M-795 (Web)) and, other than pursuant to the specific terms of such license, may not be used in any manner that might imply that the Employer's services, products, websites, or publications are sponsored by, endorsed by, licensed by, or affiliated with DHS, USCIS, or E-Verify.

20. The Employer understands that if it uses E-Verify procedures for any purpose other than as authorized by this MOU, the Employer may be subject to appropriate legal action and termination of its participation in E-Verify according to this MOU.

21. The Employer agrees that it will notify its E-Verify Employer Agent immediately if it is awarded a federal contract with the FAR clause. Your E-Verify Employer Agent needs this information so that it can update your company's E-Verify profile within 30 days of the contract award date.

B. RESPONSIBILITIES OF E-VERIFY EMPLOYER AGENT

1. The E-Verify Employer Agent agrees to provide to the SSA and DHS the names, titles, addresses, and telephone numbers of the E-Verify Employer Agent representatives who will be accessing information under E-Verify and shall update them as needed to keep them current.

2. The E-Verify Employer Agent agrees to become familiar with and comply with the E-Verify User Manual and provide a copy of the most current version of the E-Verify User Manual to the Employer so that the Employer can become familiar with and comply with E-Verify policy and procedures. The E-Verify Employer Agent agrees to obtain a revised E-Verify User Manual as it becomes available and to provide a copy of the revised version to the Employer no later than 30 days after the manual becomes available.

3. The E-Verify Employer Agent agrees that any person accessing E-Verify on its behalf is trained on the most recent E-Verify policy and procedures.

4. The E-Verify Employer Agent agrees that any E-Verify Employer Agent Representative who will perform employment verification cases will complete the E-Verify Tutorial before that individual initiates any cases.

   a. The E-Verify Employer Agent agrees that all E-Verify Employer Agent representatives will take the refresher tutorials initiated by the E-Verify program as a condition of continued use of E-Verify, including any tutorials for Federal contractors, if any of the Employers represented by the E-Verify Employer Agent is a Federal contractor.

   b. Failure to complete a refresher tutorial will prevent the E-Verify Employer Agent and Employer from continued use of E-Verify.

5. The E-Verify Employer Agent agrees to grant E-Verify access only to current employees who need



Company ID Number: 11557 **Client Company ID Number:** 771013

E-Verify access. The E-Verify Employer Agent must promptly terminate an employee's E-Verify access if the employee is separated from the company or no longer needs access to E-Verify.

6. The E-Verify Employer Agent agrees to obtain the necessary equipment to use E- Verify as required by the E-Verify rules and regulations as modified from time to time.

7. The E-Verify Employer Agent agrees to, consistent with applicable laws, regulations, and policies, commit sufficient personnel and resources to meet the requirements of this MOU.

8. The E-Verify Employer Agent agrees to provide its clients with training on E-Verify processes, policies, and procedures. The E-Verify Employer Agent also agrees to provide its clients with ongoing E-Verify training as needed. E-Verify is not responsible for providing training to clients of E-Verify Employer Agents.

9. The E-Verify Employer Agent agrees to provide the Employer with the notices described in Article II.B.1 below.

10. The E-Verify Employer Agent agrees to create E-Verify cases for the Employer it represents in accordance with the E-Verify Manual, the E-Verify Web-Based Tutorial and all other published E-Verify rules and procedures. The E-Verify Employer Agent will create E-Verify cases using information provided by the Employer and will immediately communicate the response back to the Employer. If E-Verify is temporarily unavailable, the three-day time period will be extended until it is again operational in order to accommodate the E-Verify Employer Agent's attempting, in good faith, to make inquiries on behalf of the Employer during the period of unavailability

11. When the E-Verify Employer Agent receives notice from a client company that it has received a contract with the FAR clause, then the E-Verify Employer Agent must update the company's E-Verify profile within 30 days of the contract award date.

12. If data is transmitted between the E-Verify Employer Agent and its client, then the E-Verify Employer Agent agrees to protect personally identifiable information during transmission to and from the E-Verify Employer Agent.

13. The E-Verify Employer Agent agrees to notify DHS immediately in the event of a breach of personal information. Breaches are defined as loss of control or unauthorized access to E-Verify personal data. All suspected or confirmed breaches should be reported by calling 1-888-464-4218 or via email at E-Verify@dhs.gov. Please use "Privacy Incident – Password" in the subject line of your email when sending a breach report to E-Verify.

14. The E-Verify Employer Agent agrees to fully cooperate with DHS and SSA in their compliance monitoring and evaluation of E-Verify, including permitting DHS, SSA, their contractors and other agents, upon reasonable notice, to review Forms I-9, employment records, and all records pertaining to the E-Verify Employer Agent's use of E-Verify, and to interview it and its employees regarding the use of E-Verify, and to respond in a timely and accurate manner to DHS requests for information relating to their participation in E-Verify.

15. The E-Verify Employer Agent shall not make any false or unauthorized claims or references about



Company ID Number: 11557 **Client Company ID Number:** 771013

its participation in E-Verify on its website, in advertising materials, or other media. The E-Verify Employer Agent shall not describe its services as federally-approved, federally-certified, or federally-recognized, or use language with a similar intent on its website or other materials provided to the public. Entering into this MOU does not mean that E-Verify endorses or authorizes your E-Verify Employer Agent services and any claim to that effect is false.

16. The E-Verify Employer Agent shall not state in its website or other public documents that any language used therein has been provided or approved by DHS, USCIS or the Verification Division, without first obtaining the prior written consent of DHS.

17. The E-Verify Employer Agent agrees that E-Verify trademarks and logos may be used only under license by DHS/USCIS (see M-795 (Web)) and, other than pursuant to the specific terms of such license, may not be used in any manner that might imply that the E-Verify Employer Agent's services, products, websites, or publications are sponsored by, endorsed by, licensed by, or affiliated with DHS, USCIS, or E-Verify.

18. The E-Verify Employer Agent understands that if it uses E-Verify procedures for any purpose other than as authorized by this MOU, the E-Verify Employer Agent may be subject to appropriate legal action and termination of its participation in E-Verify according to this MOU.

C. RESPONSIBILITIES OF FEDERAL CONTRACTORS

The E-Verify Employer Agent shall ensure that the E-Verify Employer Agent and the Employers represented by the E-Verify Employer Agent carry out the following responsibilities if the Employer is a Federal contractor or becomes a federal contractor. The E-Verify Employer Agent should instruct the client to keep the E-Verify Employer Agent informed about any changes or updates related to federal contracts. It is the E-Verify Employer Agent's responsibility to ensure that its clients are in compliance with all E-Verify policies and procedures.

1. If the Employer is a Federal contractor with the FAR E-Verify clause subject to the employment verification terms in Subpart 22.18 of the FAR, it will become familiar with and comply with the most current version of the E-Verify User Manual for Federal Contractors as well as the E-Verify Supplemental Guide for Federal Contractors.

2. In addition to the responsibilities of every employer outlined in this MOU, the Employer understands that if it is a Federal contractor subject to the employment verification terms in Subpart 22.18 of the FAR it must verify the employment eligibility of any "employee assigned to the contract" (as defined in FAR 22.1801). Once an employee has been verified through E-Verify by the Employer, the Employer may not reverify the employee through E-Verify.

   a. An Employer that is not enrolled in E-Verify as a Federal contractor at the time of a contract award must enroll as a Federal contractor in the E-Verify program within 30 calendar days of contract award and, within 90 days of enrollment, begin to verify employment eligibility of new hires using E-Verify. The Employer must verify those employees who are working in the United States, whether or not they are assigned to the contract. Once the Employer begins verifying new hires, such verification of new hires must be initiated within three business days after the hire date. Once enrolled in E-Verify as a Federal contractor, the Employer must begin verification of employees



Company ID Number: 11557 **Client Company ID Number:** 771013

assigned to the contract within 90 calendar days after the date of enrollment or within 30 days of an employee's assignment to the contract, whichever date is later.

b. Employers enrolled in E-Verify as a Federal contractor for 90 days or more at the time of a contract award must use E-Verify to begin verification of employment eligibility for new hires of the Employer who are working in the United States, whether or not assigned to the contract, within three business days after the date of hire. If the Employer is enrolled in E-Verify as a Federal contractor for 90 calendar days or less at the time of contract award, the Employer must, within 90 days of enrollment, begin to use E-Verify to initiate verification of new hires of the contractor who are working in the United States, whether or not assigned to the contract. Such verification of new hires must be initiated within three business days after the date of hire. An Employer enrolled as a Federal contractor in E-Verify must begin verification of each employee assigned to the contract within 90 calendar days after date of contract award or within 30 days after assignment to the contract, whichever is later.

c. Federal contractors that are institutions of higher education (as defined at 20 U.S.C. 1001(a)), state or local governments, governments of Federally recognized Indian tribes, or sureties performing under a takeover agreement entered into with a Federal agency under a performance bond may choose to only verify new and existing employees assigned to the Federal contract. Such Federal contractors may, however, elect to verify all new hires, and/or all existing employees hired after November 6, 1986. Employers in this category must begin verification of employees assigned to the contract within 90 calendar days after the date of enrollment or within 30 days of an employee's assignment to the contract, whichever date is later.

d. Upon enrollment, Employers who are Federal contractors may elect to verify employment eligibility of all existing employees working in the United States who were hired after November 6, 1986, instead of verifying only those employees assigned to a covered Federal contract. After enrollment, Employers must elect to verify existing staff following DHS procedures and begin E-Verify verification of all existing employees within 180 days after the election.

e. The Employer may use a previously completed Form I-9 as the basis for creating an E-Verify case for an employee assigned to a contract as long as:

i. That Form I-9 is complete (including the SSN) and complies with Article II.A.6,

ii. The employee's work authorization has not expired, and

iii. The Employer has reviewed the information reflected in the Form I-9 either in person or in communications with the employee to ensure that the employee's Section 1, Form I-9 attestation has not changed (including, but not limited to, a lawful permanent resident alien having become a naturalized U.S. citizen).

f. The Employer shall complete a new Form I-9 consistent with Article II.A.6 or update the previous Form I-9 to provide the necessary information if:

i. The Employer cannot determine that Form I-9 complies with Article II.A.6,

ii. The employee's basis for work authorization as attested in Section 1 has expired or changed, or

iii. The Form I-9 contains no SSN or is otherwise incomplete.



Company ID Number: 11557 **Client Company ID Number:** 771013

Note: If Section 1 of Form I-9 is otherwise valid and up-to-date and the form otherwise complies with Article II.C.5, but reflects documentation (such as a U.S. passport or Form I-551) that expired after completing Form I-9, the Employer shall not require the production of additional documentation, or use the photo screening tool described in Article II.A.5, subject to any additional or superseding instructions that may be provided on this subject in the E-Verify User Manual.

g. The Employer agrees not to require a second verification using E-Verify of any assigned employee who has previously been verified as a newly hired employee under this MOU or to authorize verification of any existing employee by any Employer that is not a Federal contractor based on this Article.

3. The Employer understands that if it is a Federal contractor, its compliance with this MOU is a performance requirement under the terms of the Federal contract or subcontract, and the Employer consents to the release of information relating to compliance with its verification responsibilities under this MOU to contracting officers or other officials authorized to review the Employer's compliance with Federal contracting requirements.

D. RESPONSIBILITIES OF SSA

1. SSA agrees to allow DHS to compare data provided by the Employer (through the E-Verify Employer Agent) against SSA's database. SSA sends DHS confirmation that the data sent either matches or does not match the information in SSA's database.

2. SSA agrees to safeguard the information the Employer provides (through the E-Verify Employer Agent) through E-Verify procedures. SSA also agrees to limit access to such information, as is appropriate by law, to individuals responsible for the verification of Social Security numbers or responsible for evaluation of E-Verify or such other persons or entities who may be authorized by SSA as governed by the Privacy Act (5 U.S.C. § 552a), the Social Security Act (42 U.S.C. 1306(a)), and SSA regulations (20 CFR Part 401).

3. SSA agrees to provide case results from its database within three Federal Government work days of the initial inquiry. E-Verify provides the information to the E-Verify Employer Agent.

4. SSA agrees to update SSA records as necessary if the employee who contests the SSA tentative nonconfirmation visits an SSA field office and provides the required evidence. If the employee visits an SSA field office within the eight Federal Government work days from the date of referral to SSA, SSA agrees to update SSA records, if appropriate, within the eight-day period unless SSA determines that more than eight days may be necessary. In such cases, SSA will provide additional instructions to the employee. If the employee does not visit SSA in the time allowed, E-Verify may provide a final nonconfirmation to the E-Verify Employer Agent.

Note: If an Employer experiences technical problems, or has a policy question, the employer should contact E-Verify at 1-888-464-4218.

E. RESPONSIBILITIES OF DHS

1. DHS agrees to provide the Employer with selected data from DHS databases to enable the Employer (through the E-Verify Employer Agent) to conduct, to the extent authorized by this MOU:

Company ID Number: 11557 **Client Company ID Number:** 771013

a. Automated verification checks on alien employees by electronic means, and

b. Photo verification checks (when available) on employees.

2. DHS agrees to assist the E-Verify Employer Agent with operational problems associated with its participation in E-Verify. DHS agrees to provide the E-Verify Employer Agent names, titles, addresses, and telephone numbers of DHS representatives to be contacted during the E-Verify process.

3. DHS agrees to provide to the E-Verify Employer Agent with access to E-Verify training materials as well as an E-Verify User Manual that contain instructions on E-Verify policies, procedures, and requirements for both SSA and DHS, including restrictions on the use of E-Verify.

4. DHS agrees to train E-Verify Employer Agents on all important changes made to E-Verify through the use of mandatory refresher tutorials and updates to the E-Verify User Manual. Even without changes to E-Verify, DHS reserves the right to require E-Verify Employer Agents to take mandatory refresher tutorials.

5. DHS agrees to provide to the Employer (through the E-Verify Employer Agent) a notice, which indicates the Employer's participation in E-Verify. DHS also agrees to provide to the Employer anti-discrimination notices issued by the Office of Special Counsel for Immigration-Related Unfair Employment Practices (OSC), Civil Rights Division, U.S. Department of Justice.

6. DHS agrees to issue each of the E-Verify Employer Agent's E-Verify users a unique user identification number and password that permits them to log in to E-Verify.

7. HS agrees to safeguard the information the Employer provides (through the E-Verify Employer Agent), and to limit access to such information to individuals responsible for the verification process, for evaluation of E-Verify, or to such other persons or entities as may be authorized by applicable law. Information will be used only to verify the accuracy of Social Security numbers and employment eligibility, to enforce the INA and Federal criminal laws, and to administer Federal contracting requirements.

8. DHS agrees to provide a means of automated verification that provides (in conjunction with SSA verification procedures) confirmation or tentative nonconfirmation of employees' employment eligibility within three Federal Government work days of the initial inquiry.

9. DHS agrees to provide a means of secondary verification (including updating DHS records) for employees who contest DHS tentative nonconfirmations and photo mismatch tentative nonconfirmations. This provides final confirmation or nonconfirmation of the employees' employment eligibility within 10 Federal Government work days of the date of referral to DHS, unless DHS determines that more than 10 days may be necessary. In such cases, DHS will provide additional verification instructions.

Company ID Number: 11557 **Client Company ID Number:** 771013

ARTICLE III
REFERRAL OF INDIVIDUALS TO SSA AND DHS

A. REFERRAL TO SSA

1. If the Employer receives a tentative nonconfirmation issued by SSA, the Employer must print the notice as directed by E-Verify. The Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Employer also agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Employer agrees to provide written referral instructions to employees and instruct affected employees to bring the English copy of the letter to the SSA. The Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending.

2. The Employer agrees to obtain the employee's response about whether he or she will contest the tentative nonconfirmation as soon as possible after the Employer receives the tentative nonconfirmation. Only the employee may determine whether he or she will contest the tentative nonconfirmation.

3. After a tentative nonconfirmation, the Employer will refer employees to SSA field offices only as directed by E-Verify. The Employer must record the case verification number, review the employee information submitted to E-Verify to identify any errors, and find out whether the employee contests the tentative nonconfirmation. The Employer will transmit the Social Security number, or any other corrected employee information that SSA requests, to SSA for verification again if this review indicates a need to do so.

4. The Employer will instruct the employee to visit an SSA office within eight Federal Government work days. SSA will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary.

5. While waiting for case results, the Employer agrees to check the E-Verify system regularly for case updates.

6. The Employer agrees not to ask the employee to obtain a printout from the Social Security Administration number database (the Numident) or other written verification of the SSN from the SSA.

B. REFERRAL TO DHS

1. If the Employer receives a tentative nonconfirmation issued by DHS, the Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Employer also agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending.

2. The Employer agrees to obtain the employee's response about whether he or she will contest the tentative nonconfirmation as soon as possible after the Employer receives the tentative nonconfirmation. Only the employee may determine whether he or she will contest the tentative



Company ID Number: 11557 **Client Company ID Number:** 771013

nonconfirmation.

3. The Employer agrees to refer individuals to DHS only when the employee chooses to contest a tentative nonconfirmation.

4. If the employee contests a tentative nonconfirmation issued by DHS, the Employer will instruct the employee to contact DHS through its toll-free hotline (as found on the referral letter) within eight Federal Government work days.

5. If the Employer finds a photo mismatch, the Employer must provide the photo mismatch tentative nonconfirmation notice and follow the instructions outlined in paragraph 1 of this section for tentative nonconfirmations, generally.

6. The Employer agrees that if an employee contests a tentative nonconfirmation based upon a photo mismatch, the Employer will send a copy of the employee's Form I-551, Form I-766, U.S. Passport, or passport card to DHS for review by:

a. Scanning and uploading the document, or

b. Sending a photocopy of the document by express mail (furnished and paid for by the employer).

7. The Employer understands that if it cannot determine whether there is a photo match/mismatch, the Employer must forward the employee's documentation to DHS as described in the preceding paragraph. The Employer agrees to resolve the case as specified by the DHS representative who will determine the photo match or mismatch.

8. DHS will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary.

9. While waiting for case results, the Employer agrees to check the E-Verify system regularly for case updates.

ARTICLE IV
SERVICE PROVISIONS

A. NO SERVICE FEES

1. SSA and DHS will not charge the Employer for verification services performed under this MOU. The Employer is responsible for providing equipment needed to make inquiries. To access E-Verify, an Employer will need a personal computer with Internet access.

ARTICLE V
MODIFICATION AND TERMINATION

A. MODIFICATION

1. This MOU is effective upon the signature of all parties and shall continue in effect for as long as the SSA and DHS operates the E-Verify program unless modified in writing by the mutual consent of all parties.



Company ID Number: 11557 **Client Company ID Number:** 771013

2. Any and all E-Verify system enhancements by DHS or SSA, including but not limited to E-Verify checking against additional data sources and instituting new verification policies or procedures, will be covered under this MOU and will not cause the need for a supplemental MOU that outlines these changes.

B. TERMINATION

1. The Employer may terminate this MOU and its participation in E-Verify at any time upon 30 days prior written notice to the other parties. In addition, any Employer represented by the E-Verify Employer Agent may voluntarily terminate this MOU upon giving DHS 30 days' written notice.

2. Notwithstanding Article V, part A of this MOU, DHS may terminate this MOU, and thereby the Employer's participation in E-Verify, with or without notice at any time if deemed necessary because of the requirements of law or policy, or upon a determination by SSA or DHS that there has been a breach of system integrity or security by the Employer, or a failure on the part of the Employer to comply with established E-Verify procedures and/or legal requirements. The Employer understands that if it is a Federal contractor, termination of this MOU by any party for any reason may negatively affect the performance of its contractual responsibilities. Similarly, the Employer understands that if it is in a state where E-Verify is mandatory, termination of this by any party MOU may negatively affect the Employer's business.

3. An Employer that is a Federal contractor may terminate this MOU when the Federal contract that requires its participation in E-Verify is terminated or completed. In such cases, the Federal contractor must provide written notice to DHS. If an Employer that is a Federal contractor fails to provide such notice, then that Employer will remain an E-Verify participant, will remain bound by the terms of this MOU that apply to non-Federal contractor participants, and will be required to use the E-Verify procedures to verify the employment eligibility of all newly hired employees.

4. The Employer agrees that E-Verify is not liable for any losses, financial or otherwise, if the Employer is terminated from E-Verify.

5. Upon termination of the relationship between an Employer and their E-Verify Employer Agent, E-Verify cannot provide the Employer with its records. The Employer agrees to seek its records from the E-Verify Employer Agent.

ARTICLE VI

PARTIES

A. Some or all SSA and DHS responsibilities under this MOU may be performed by contractor(s), and SSA and DHS may adjust verification responsibilities between each other as necessary. By separate agreement with DHS, SSA has agreed to perform its responsibilities as described in this MOU.

B. Nothing in this MOU is intended, or should be construed, to create any right or benefit, substantive or procedural, enforceable at law by any third party against the United States, its agencies, officers, or employees, or against the Employer, its agents, officers, or employees.

C. The Employer may not assign, directly or indirectly, whether by operation of law, change of control or merger, all or any part of its rights or obligations under this MOU without the prior written consent of

Company ID Number: 11557 **Client Company ID Number:** 771013

DHS, which consent shall not be unreasonably withheld or delayed. Any attempt to sublicense, assign, or transfer any of the rights, duties, or obligations herein is void.

D. Each party shall be solely responsible for defending any claim or action against it arising out of or related to E-Verify or this MOU, whether civil or criminal, and for any liability wherefrom, including (but not limited to) any dispute between the Employer and any other person or entity regarding the applicability of Section 403(d) of IIRIRA to any action taken or allegedly taken by the Employer.

E. The Employer understands that its participation in E-Verify is not confidential information and may be disclosed as authorized or required by law and DHS or SSA policy, including but not limited to, Congressional oversight, E-Verify publicity and media inquiries, determinations of compliance with Federal contractual requirements, and responses to inquiries under the Freedom of Information Act (FOIA).

F. The individuals whose signatures appear below represent that they are authorized to enter into this MOU on behalf of the Employer, the E-Verify Employer Agent, and DHS respectively. The Employer understands that any inaccurate statement, representation, data or other information provided to DHS may subject the Employer, its subcontractors, its employees, or its representatives to: (1) prosecution for false statements pursuant to 18 U.S.C. 1001 and/or; (2) immediate termination of its MOU and/or; (3) possible debarment or suspension.

G. The foregoing constitutes the full agreement on this subject between DHS, the Employer, and the E-Verify Employer Agent. Black & Veatch Corporation (Employer) hereby designates and appoints HireRight, Inc. (v25) (E- Verify Employer Agent), including its officers and employees, as the E-Verify Employer Agent for the purpose of carrying out (Employer) responsibilities under the MOU between the Employer, the E-Verify Employer Agent, and DHS.

Company ID Number: 11557 **Client Company ID Number:** 771013

If you have any questions, contact E-Verify at 1-888-464-4218.

Approved by:

Employer Black & Veatch Corporation	
Name (Please Type or Print) Christopher Gould	Title
Signature 	Date 04/04/2014
E-Verify Employer Agent HireRight, Inc. (v25)	
Name (Please Type or Print) Orvella Cartwright	Title
Signature Electronically Signed	Date 04/04/2014
Department of Homeland Security – Verification Division	
Name (Please Type or Print) USCIS Verification Division	Title
Signature Electronically Signed	Date 04/07/2014

Company ID Number: 11557 **Client Company ID Number:** 771013

Information Required for the E-Verify Program **Information relating to your Company:**	
Company Name	Black & Veatch Corporation
Company Facility Address	11401 Lamar Overland Park, KS 66211
Company Alternate Address	
County or Parish	JOHNSON
Employer Identification Number	431833073
North American Industry Classification Systems Code	238
Parent Company	
Number of Employees	10,000 and over
Number of Sites Verified for	2

Company ID Number: 11557 **Client Company ID Number:** 771013

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State:

GEORGIA	1 site(s)
KANSAS	1 site(s)

Company ID Number: 11557 **Client Company ID Number:** 771013

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name	Nathan Van De Voorde
Phone Number	(913) 458 - 6638
Fax Number	
Email Address	VanDeVoordeN@bv.com

Company ID Number: 11557 **Client Company ID Number:** 771013

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SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by Rafael E. Frias, III, Vice President
(Print individual's name and title)

for Black & Veatch Corporation
(Print name of entity submitting sworn statement)

whose business address is 3405 W. Dr. M.L. King Jr. Boulevard, Suite 125, Tampa, FL 33607

and (if applicable) its Federal Employer Identification Number (FEIN) is 43-1833073
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____).

2. I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

✔ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives,

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

(Signature) 2/28/23 (Date)

STATE OF Florida

COUNTY OF Broward

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 28 day of February, 2023 by Rafael Frias III as Vice President of Blackrvegarch CORP, a Delaware company organized under the laws of the State of Delaware, on behalf of the company, who is personally known to me or has produced N/A as identification.

Notary Public

ALEXIS MUNGAL
Notary Public-State of Florida
Commission # HH 351519
My Commission Expires
January 19, 2027

Alexis Mungal
Name typed, printed or stamped

My Commission Expires: Janvary 19, 2027

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: Black & Veatch Corporation

Reference Entity: City of Fort Myers

Reference Contact Person: Richard Moulton

Reference Address: 2200 Second Street, Fort Myers, FL 33901

Reference Email Address: RMoulton@cityftmyers.com

Reference Phone No.: 239-321-7216

Project Name: WTP Facility Plan & WTP RO Treatment Improvements

Project Location: Fort Myers, FL

Consultant Project Manager: Mark Martin

Contract Amount: Budget: $3.5M (Design & CPS); Est. Construction: $30M

Date Project Commenced: September 2016

Date of Final Completion: Ongoing

Description of Work Performed:

WTP Facility Plan. Black & Veatch prepared a WTP Facility Plan to provide a guide for the City's future water system development and investment decisions. A detailed Capital Improvement Plan (CIP) was also developed to incorporate prioritized improvements and an implementation schedule with consideration for critical needs and budgetary constraints. Expansion and improvements to the RO membrane treatment was included as part of the Facility Plan.

WTP RO Treatment Improvements. Black & Veatch is developing a preliminary design for RO treatment expansion and improvements. The preliminary design includes raw water quality sampling and evaluation, a hydraulic modeling and capacity evaluation, an RO treatment improvement evaluation of different processes, an evaluation of the electrical systems, and an evaluation of the instrumentation and control systems. A basis of design and the results of the evaluations will be summarized in a preliminary design report. In addition, the preliminary design includes the preparation specifications for long-lead equipment, such as RO treatment equipment, electrical switchgear, and engine generators, to allow the Construction Manager at Risk (CMAR) to pre-purchase this equipment before completion of the design. After acceptance of the preliminary design report, Black & Veatch will provide the development of detailed design documents, permitting support, pre-construction services, construction administration and inspection services, training, startup, commissioning, and testing. In addition, the project is partially funded through the American Rescue Plan Act (ARPA) and funding assistance services are being provided to the City.

Under related projects at this facility Black & Veatch has: renewed the permit for the UIC concentrate disposal well; design and CPS services for chemical storage, feed, and degasifier system; and design and CPS services for brackish RO wellfield expansion and raw water pipelines.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: Black & Veatch Corporation

Reference Entity: Tampa Bay Water

Reference Contact Person: Danielle Keirsey, PMP; Planning Project Manager III - Engineer

Reference Address: 2575 Enterprise Rd., Clearwater, FL 33763-1102

Reference Email Address: dkeirsey@tampabaywater.org

Reference Phone No.: 727-791-2377

Project Name: RO Desalination WTP Expansion, Optimization Plan

Project Location: Tampa, FL

Consultant Project Manager: Bobby Burchett

Contract Amount: $2.9M. Completed on budget.

Date Project Commenced: August 2019

Date of Final Completion: 2022

Description of Work Performed: Black & Veatch has completed many projects for the Tampa Bay Water RO Desalination WTP (Desal Plant). The projects have ranged from pilot testing of various pre-treatment and RO membrane processes, operations optimization and energy efficiency assessments, and the planning, design, and construction of improvements to the facility to enhance reliability and operational efficiencies.

In 2022, Black & Veatch completed a comprehensive RO Desalination WTP Optimization and Expansion Plan that included condition assessment, hydraulic analysis, and a 12-month pilot testing program to assess various pre-treatment processes and RO membrane performance. Pre-treatment processes included Dissolved air flotation (DAF), dual media filtration (DMF), and membrane filtration (MF) upstream of RO membranes. A variety of treatment process configurations, scenarios, and settings were evaluated as part of the pilot testing, including various pretreatment sequences, coagulant doses, loading rates, and cleaning frequencies. The results of this project defined a recommended approach for future treatment process and infrastructure improvements to optimize and expand the Desal Plant's sustainable operating capacity to meet the region's increasing water demands.

In previous years, Black & Veatch has also provided engineering and construction services for the following Desal Plant improvement projects:

- Design and construction of improvements to an existing seawater supply pump station and concentrate discharge system to address condition and reliability issues.
- Comprehensive energy audit of the Desal Plant processes and equipment. The results of this effort identified a variety of energy efficiency improvements.
- Black & Veatch is also currently serving as Owner's Engineer for Design-Build project for the construction of a new seawater supply pump station and pipeline.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: Black & Veatch Corporation

Reference Entity: Miami-Dade Water and Sewer District

Reference Contact Person: Virginia Walsh

Reference Address: 3071 SW 38th Ave, Miami, Florida 33146

Reference Email Address: walshv@miamidade.gov

Reference Phone No.: 786- 251-1849

Project Name: Hydrogeological Service Program and Ocean Outfall Injection Well Program

Project Location: Miami, FL

Consultant Project Manager: Jamie Abreau

Contract Amount: $11M

Date Project Commenced: June 2019

Date of Final Completion: Ongoing

Description of Work Performed: Black & Veatch was contracted as a subconsultant for the Miami Dade County Water and Sewer Department (WASD) to provide specialized hydrogeologic consultant services for their production wells, ASR wells, Injection wells, and monitoring wells. Black & Veatch lead the WUP Modification Application to increase the existing 350 MGD permitted capacity by an additional 20 MGD. Black & Veatch is supporting Miami-Dade WASD with completing the groundwater and optimization modeling in support of increase Biscayne aquifer allocations and seasonal withdrawals. Black & Veatch used WASD's optimization tool in conjunction with the USGS Urban Miami Dade (UMD) model.

Black & Veatch Team have also supported WASD with completing the analysis to determine the feasibility of the C-51 Reservoir Project to increase the Biscayne Aquifer WUP permit allocation. This analysis included surface water routing modeling through the C-51 and District regional conveyance system down through Miami-Dade County. This task provided support in discussions/meetings with SFWMD and other stake holders, modeling review support, and preparation/review of the water use permit allocation.

Black & Veatch is also Miami-Dade's technical lead for the design, permitting, and construction and testing of four 20 MGD municipal injection wells at the North District WWTP, nine 20 MGD municipal injection wells at the Central District WWTP and three 20-MGD municipal injection wells at the South District WWTP. This is a very large program where we are collaborating with Jacobs Engineering, who are the Ocean Outfall Program Manager. There are many moving parts on this project, with up to six drill rigs in operation simultaneously on a continuous 24 hours a day, 7 days a week schedule. For a project of this size to be completed successfully and on schedule, it is imperative that all consultant firms work seamlessly together on behalf of Miami-Dade.

Prepared for:

PEACE RIVER MANASOTA
REGIONAL WATER SUPPLY AUTHORITY

STATEMENT OF QUALIFICATIONS

Professional Services for the Peace River Brackish Groundwater Facility Project

March 2023



carollo®

301 North Cattlemen Road, Suite 302
Sarasota, Florida 34232
P 941-371-9832
carollo.com

March 13, 2023

Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, FL 34202

Subject: Statement of Qualifications for the Peace River Brackish Groundwater Facility Project

Dear Selection Committee Members:

The Peace River Facility (PRF) was originally constructed five decades ago with numerous expansions and improvements over the years and has consistently provided reliable water supply to the Region. To meet projected demands, the Authority needs rigorous hydrogeological services, engineering, and cost estimates under an aggressive and firm schedule to support planning and decision making. The Carollo team brings the proven expertise, experience, and commitment to work with you to develop the best possible project with reliable cost estimates within your schedule. This will enable you to make the right decisions and move forward with confidence in your Brackish Groundwater Facility project.

At Carollo, water is our focus, our business, and our passion, allowing us to put our resources into projects encompassing all facets of the water industry. This focus on water is perfectly aligned with yours, providing exceptional synergy and value. In addition to extensive national experience in brackish water supply development and treatment, we have experience with 11 similar, successful brackish groundwater projects in Southwest/Central Florida. We have enhanced our capabilities by teaming with several firms who bring valuable knowledge, capabilities, and proven experience with the Authority, including: Progressive Water Resources/RESPEC and ASRus, providing the best available hydrogeological expertise for this project, and with whom we have worked extensively on similar projects effectively addressing uncertainties in source water quality and concentrate management; and Wade Trim for wellfield and conveyance aspects to add value and depth of resources leveraging particular experience and decades-long professional relationships.

In addition, we have brought three qualified drilling contractors onto our team (Schultes, Layne, and Youngquist) and have negotiated contracts with each to be finalized during our contract negotiations with the Authority. The talent and commitment of the Carollo team is fully leveraged by our project manager, Sandeep Sethi, who brings over 30 years of brackish groundwater supply development experience and a track record of leading these same dedicated team members on many similar successful projects.

We ask that you give Carollo Engineers the opportunity to demonstrate to you why so many other utilities across Florida have turned to us for their most challenging and important water supply and treatment projects. In turn, we will work alongside you to develop a Brackish Groundwater Facility that best meets your goals with reliable cost estimates delivered on schedule. We understand that your member agencies are counting on the Authority to be successful in effectively meeting their drinking water needs, and you can, likewise, count on Carollo Engineers to help you achieve this success.

Sincerely,
CAROLLO ENGINEERS, INC.

Sandeep Sethi, PhD, PE
Vice President/Project Manager

Bob Cushing, PhD, PE, BCEE
Senior Vice President/Project Director

Table of Contents

0. BACKGROUND
1. PROJECT MANAGER & MANAGEMENT
2. CONSULTANT TEAM'S ENGINEERING EXPERIENCE
3. CONSULTANT TEAM'S HYDROGEOLOGIC EXPERIENCE
4. PRELIMINARY PROJECT UNDERSTANDING, APPROACH, AND SCHEDULE
5. WELL CONSTRUCTION CONTRACTOR APPROACH
6. REQUIRED FORMS

Background

0 Background

1. **Consultant's Legal Name & Primary Contact Information:**

   Legal Name: Carollo Engineers, Inc.

   Primary Contact:
   Sandeep Sethi, Project Manager
   101 E Kennedy Boulevard, Suite 700
   Tampa, FL 33602
   P: 941-685-6476
   ssethi@carollo.com

2. **Principal Office Locations**

   Principal office locations for Carollo and our subconsultants is included in Table 1 below.

3. **Legal Form of Company**

   Carollo is a Corporation with 90 years in the industry.

4. **Florida Professional Licenses**

   Applicable Florida professional licenses are provided on the next page.

5. **Consultant's Disclosure**

   Table 2 identifies which customers Carollo and/or our subconsultants currently represent. As defined in the RFQ, customers include: Charlotte, DeSoto, Manatee, and Sarasota counties, and the City of North Port.

6. **Litigation Disclosure**

   Neither Carollo nor our subconsultants are involved in any litigation against any of the Authority Customers, either directly or retained for testimony and expertise on behalf of any other entity in litigation against the Authority or any of its Customers (Charlotte, DeSoto, Manatee, or Sarasota counties, and the City of North Port).

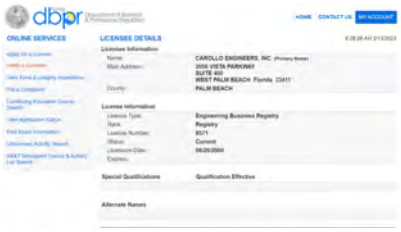
Table 1: Principal Office Locations

Consultant/ Subconsultants	Location
Carollo	Sarasota, FL
PWR/RESPEC	Sarasota, FL
ASRus	Tampa, FL
Wade Trim	Tampa, FL
EarthBalance	North Port, FL
ADS Engineering	Pompano Beach, FL
CA^3	Sarasota, FL
Hyatt Survey Services	Bradenton, FL
Tierra, Inc.	Tampa, FL

Table 2: Current Client Representation

Consultant/ Subconsultants	Charlotte	DeSoto	Manatee	Sarasota	North Port
Carollo			✓	✓	
PWR/RESPEC				✓	
ASRus	✓		✓	✓	
Wade Trim			✓		
EarthBalance			✓	✓	
ADS Engineering					
CA^3			✓	✓	
Hyatt Survey Services			✓	✓	
Tierra, Inc.			✓	✓	✓

CAROLLO



License Type: Engineering
License Number: 8571

PWR/RESPEC



License Type: Engineering
License Number: 33253

ASRUS



License Type: Geology

WADE TRIM



License Type: Engineering
License Number: 3952

EARTHBALANCE



State of Florida
Department of State

I certify from the records of this office that EARTHBALANCE CORPORATION is a corporation organized under the laws of the State of Florida, filed on November 4, 1985, effective November 1, 1985.

The document number of this corporation is H84315.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on April 28, 2022, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twenty-fourth day of May, 2022

Secretary of State

Tracking Number: 202293294CU

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

License Type: Environmental
License Number: H84315

ADS



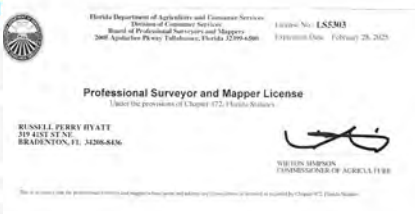
License Type: Engineering
License Number: 29678

CA³



License Type: Architect
License Number: AR0014171

HYATT



Professional Surveyor and Mapper License

License Type:
Surveyor & Mapper
License Number: LS5303

TIERRA



License Type: Geology

Project Manager & Management



1 Project Manager & Management

MEET YOUR PROJECT MANAGER

The talent and commitment of the Carollo team is fully leveraged by our project manager, Sandeep Sethi, who brings over 30 years of brackish groundwater supply development experience and a track record of leading our dedicated team members on similar successful projects.



Sandeep is a chief technologist with Carollo. He is a locally and nationally known expert for water quality and treatment. He is also an accomplished manager who has 30+ years of experience and has served as a trusted advisor to numerous clients in Florida and across the country. Sandeep is located in our Tampa office, which will provide you prompt and easy access to your project manager throughout the duration of the project. Sandeep will serve as the point of contact for any and all work assigned by the Authority.

Sandeep's Background and **Relevant Experience**

Sandeep's experience includes planning, design, and construction of large multi-million-dollar facilities, and complex pilot/demonstration testing programs, involving multiple stakeholders. He has experience in both conventional and advanced treatment technologies, with special expertise in membrane technologies including RO, NF, EDR, UF, and MF. The list below highlights Sandeep's relevant experience. (See detailed descriptions for Polk Regional, and Clearwater projects in Section 2)

- **Polk Regional Water Cooperative** 15-mgd RO Southeast Water Production Facility and 10-mgd RO West Polk Water Production Facility | Project Manager
- **City of Clearwater** 6.25-mgd RO System Improvements Project | Project Manager
- **Tampa Bay Water** 25-mgd Water RO Desalination Facility Optimization | Project Manager
- **Sarasota County** Carlton Water Filtration Plant RO Feasibility Project | Project Manager
- **Metropolitan Water District of Southern California** 200-mgd Desalination Conceptual Design and Siting
- **City of Sunrise** Sawgrass 3-mgd RO and NF Rerating Project | Technical Advisor
- **South Florida Water Management District** Water Desalination Concentrate Management & Piloting | Project Director and Principal Investigator





Sandeep brings many years of extensive technical and hands-on project management experience derived from his work on similar drinking water projects.

> ***Carollo quickly resolved regulatory issues by making intelligent analysis of the data...This astute analysis was in large part due to the exceptional technical expertise and project management demonstrated by Sandeep Sethi...Our work with Carollo resulted in significant cost savings.***
>
> ***– Tim Deputy, General Manager Sun N Fun***

Sandeep
BY THE NUMBERS

20

RO projects he has served in as project manager or a lead design role

60

Water projects executed

1 - 200 mgd

Capacity range for projects he has worked on

A Minute with Your **Project Manager**

What do you see as the most important challenge facing this project?

The Authority has successfully identified an alternative water source and permitted its use to create a reliable, sustainable water supply for generations to come. For you to continue to move forward and deliver your vision, it's key this project provides an optimized and affordable solution and accurate cost estimates delivered on schedule.

What previous experience have you had on a similar project that will directly affect your work on this project?

I have worked on, managed teams, and successfully completed similar projects that included all of the aspects described in your RFQ. These projects have ranged from focused studies to the design of large, complex projects. The most recent example of the latter is the Phase I for Polk Regional Water Cooperative where we coordinated with 16 member governments to design two brackish water desalination facilities (15-mgd Southeast RO WPF and 10-mgd West Polk WPF). Both these facilities have similar elements and components as the PRMRWSA project. It's also important that I've worked closely with our key team members on many of these projects. It's a proven team, and I look forward to working with them again and with you on this critical Authority Brackish Groundwater project.

What treatment technologies do you think might work best for this project?

The alternative water source contains constituents that cannot be removed by conventional or lime softening treatment, or even by NF. It will require a treatment technology that is customized to remove the constituents that are in high enough concentrations to be of concern from the regulatory standpoint, or of concern from the targeted water quality goals of the Authority. We know that RO is effective at removing a broad array of constituents. Some constituents, like excess chlorides, are undesirable, yet others, such as alkalinity, actually provide value to the quality of the finished water—nonetheless, they are all removed just the same via the RO process. On the contrary, technologies such as ion exchange and EDR are more focused and typically select a targeted compound or group of compounds.

The Carollo team follows a proven overall approach for successful schedule and cost control.

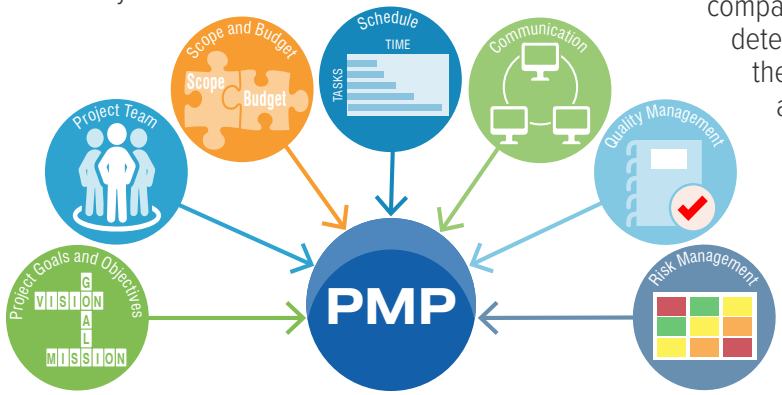
PROJECT MANAGEMENT APPROACH

Carollo has rigorous procedures for project management. These procedures are time tested and used on all our projects. That consistency contributes to the success of our ability to meet or exceed performance while maintaining schedules and budgets.

Key Elements of our Management Approach

- **Emphasis on communication with the client and within the project team**–keep everyone on the same page, do it once and do it right.
- **Key senior staff involvement for quality control**–take advantage of the experience of our staff.
- **Frequent comparison of planned-versus-actual budget and schedule**–know where a project is at all times, avoid surprises, and immediately address slippage.
- **Assemble a dedicated team with the right technical skills and experience** working together as a team on previous successful projects.

Inherent to our project delivery approach is the fact that Carollo has the commitment of each of our project managers to follow our procedures on each and every project. Further, each project has an advisory team to monitor the work progress and provide technical overview to promptly resolve concerns before they become significant and cause delays.



Every Project Begins with a Project Management Plan (PMP)

The PMP is a powerful communication tool that helps our project manager coordinate our work effort, control the project, and meet the expectations of the stakeholders and your staff.

The PMP is created during the initial planning of the work, and serves as the basis for development of the final work product and all related documents. The Risk Register is an essential element of the PMP and is a dynamic tool leveraged throughout the project.

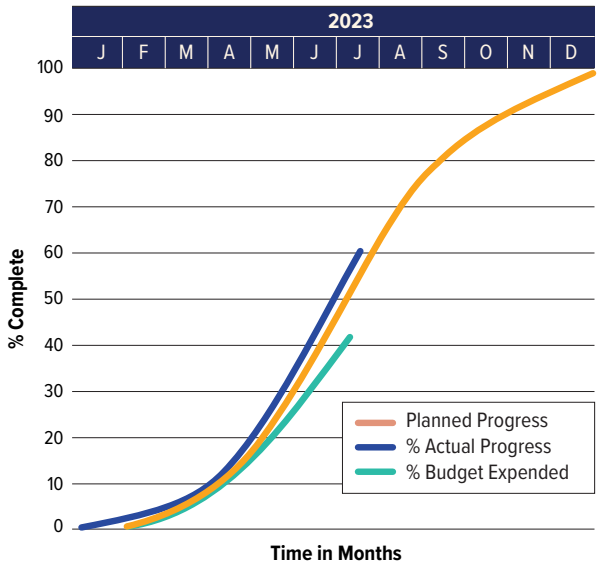
Making Use of Tracking and Resource Management Tools

Managing Project Schedule

Carollo understands that this project must not only provide an optimized solution and accurate cost estimate but be delivered on schedule to meet Authority project planning and implementation needs. Carollo will develop a project schedule as part of our efforts to track expected performance against actual project execution. The schedule is established by identifying project milestones and determining when each task must be complete to proactively meet the milestone dates.

Each month, **Sandeep,** our project manager, will assess the percent complete for the project. The percent complete is estimated on a per-task basis, in a defined manner, and is done independently of budget review. The estimated percent complete is compared to the planned percent complete to determine if the project is on schedule. If the project is not on schedule, staffing adjustments or other corrective measures are implemented.

The PMP is a dynamic tool for successful project delivery.



The "S-curve" is a graphical illustration of the project plan, showing completed on time and within the labor-hour budget.

To monitor project progress, the project labor-hour budget is fit to the project schedule to form an "S-curve". Each month, the percent complete is plotted on the S-curve to compare actual project progress to planned progress. If the actual progress falls behind the planned progress, corrective measures are identified and implemented.

Managing Project Budget

Sandeep will be managing engineering costs based on the agreed-upon budgets, which when combined with the baseline schedule, produces a cost-loaded spending plan. Earned value will be used to measure performance, comparing the cost and value of the work performed to the baseline schedule and budget. Integrating monthly expenditure forecasts into one master budget will support accurate financial management and will provide transparent and supportable information to the Authority's leadership.

Keeping you in the Loop – Preplanned Meetings and Workshops

Our most direct way to communicate with you will be through meetings. At important decision points, we will conduct meetings to present critical information regarding the project to Authority's user groups, engineering staff, and other affected parties, and reach a consensus.

Our experience shows that building consensus with user groups is integral to any successful project. We are here to serve your needs.

For each project meeting or workshop, we will prepare an agenda ahead of the meeting. We will prepare meeting notes and decision logs for each meeting to document the discussion. The Risk Register is continuously updated and keeps the team on track and aware of risks to schedule delays and able to preempt slippage.

We will also hold meetings on a more frequent and informal basis with project team members, as required to assist in the decision-making process. These day-to-day discussions can be equally important to formal meetings, to keeping our team informed, and headed to the desired endpoint.

Adhering to our QA/QC Procedures – Avoiding Wrong Turns and Rework

Before a project begins, Sandeep is responsible for preparing a project checklist. This form lists various project steps and guides the project team to identify the quality management steps and to document their completion. Some of the areas we include in our quality management checklist are listed below.

- **Pre-Contract Planning**
  Establishing project goals, project team, project scope, budget
- **Special Requirements**
  (i.e. special permits and regulatory approvals)
- **Work Plan**
  Work sequence effort
- **Project Management Plan**
  Communication, schedule, scope, budget, staffing plan
- **Special Project Checks**
  Concept review, peer review, owner review
- **Independent Final Checks**
  Internal review by senior engineers not involved in the project
- **Quality Control Tools**
  Carollo Design Aid Manuals

Consultant Team's Engineering Experience



2 Consultant Team's Engineering Experience

Carollo's success with similar projects is a direct result of our strong commitment to open, continuous communication, a proven record of serving as an extension of our clients' staff, and a solid reputation for delivering thorough, responsive, and quality engineering services.

A TEAM TAILORED TO YOUR BRACKISH GROUNDWATER PROJECT WITH EXTENSIVE EXPERIENCE WORKING TOGETHER AS A TEAM

Selecting the right team for this expansion project is one of your most important decisions. A complex and technically challenging project such as this requires a diverse team of experts that know you and your challenges. **Our team, in collaboration with PRMRWSA, is excited to build on the successful history we have delivering other successful, similar projects.**

Carollo – Water Experts

We are nationally recognized for our technical excellence and ability to offer creative, practical, affordable, and reliable solutions. Since 1933, we have completed more than 25,000 projects for public sector clients who count on us to help them meet public expectations, navigate the increasingly complex challenges of protecting overburdened water resources, cost-effectively sustain and safeguard public health, and meet local, state, and federal regulatory requirements.

All of our work is in water, which results in a level of understanding of key supply, treatment, and conveyance issues that few can match. We apply sound, proven engineering principles to advance the application of water technologies and engineering excellence. Many of these are award-winning, comprehensive projects (including planning, design, construction services, and O&M assistance) for agencies that face a variety of complex issues, such as complex hydrogeological and water resources, siting issues, and budget constraints.

For 90 years, water facility design has been an integral part of Carollo's experience. Continuing the tradition, over the past 10 years alone, we have provided engineering services for more than 100 water treatment plants with a total capacity of more than 3.5 bgd.

We see water differently.



DELIVERING WATER / WASTEWATER **SOLUTIONS**



INCLUDING **7 IN FLORIDA**



INCLUDING **140 EMPLOYEES IN FLORIDA**



WORKING IN **THE PEACE RIVER REGION**

TRUSTED SUBCONSULTANTS

Carollo has teamed with several key subconsultants to bring extensive experience with the Authority and working together as a team delivering successful projects.

PWR/RESPEC

Wellfield

» **PWR/RESPEC's** water resource professionals have many decades of experience and knowledge in multiple aspects of groundwater resource development and management in southwest Florida. They provide a broad array of technical, scientific, and regulatory support services to assist public and private sector clients in all their water resource needs. PWR/RESPEC brings a long successful working relationship with the Authority and critical intimate knowledge of this brackish groundwater project.

WORKED WITH PRMRWSA WORKED WITH OUR TEAM

ASRus, LLC

Hydrology

» **ASRus** was founded in 2006 to provide hydrogeological and reuse professional services to municipal and industrial clients in Florida. ASRus provides oversight and expertise in projects such as municipal deep injection wells, ASR, aquifer recharge, and water supply development and permitting. ASRus brings a long successful working relationship with the Authority and critical intimate knowledge of this brackish groundwater project.

WORKED WITH PRMRWSA WORKED WITH OUR TEAM

Wade Trim

Wellfield and WTP Related Tasks

» **Wade Trim** has a long history of providing planning, design, and construction management services for water treatment, conveyance, and distribution projects. They have assisted communities in planning and managing their water systems through water system feasibility studies, master plans, reliability studies, hydraulic analyses, distribution and conveyance network analyses, and capital improvement plans.

WORKED WITH PRMRWSA WORKED WITH OUR TEAM

EarthBalance, LLC

Environmental

» **EarthBalance** is Florida's leading ecological consulting and restoration firm, specializing in restoring, protecting, and managing ecosystems. They take projects from inception through permitting, construction, and regulatory compliance, and develop ecological solutions that benefit both the community and the environment.

WORKED WITH OUR TEAM

ADS Engineering, PLLC

EI&C Engineers/SCADA

» **ADS Engineering's** core business is electrical, instrumentation and control engineering, design, analysis, construction management, and programming services in various industries and specialized in water and wastewater industry.

WORKED WITH OUR TEAM

CA³

Architect

» **C. Alan Anderson Architect, P.A.** (CA3) was established in early 2001, and they specialize in solving design problems. Their project approach allows the client to see various concepts in solving project needs, ensuring they have looked at all alternatives and have chosen the best design option that meets their needs.

WORKED WITH OUR TEAM

TRUSTED SUBCONSULTANTS (CONT'D)

Hyatt Survey Services, Inc.
Surveying

» **Hyatt Survey Services, Inc.** is a full-service surveying and mapping company with a professional staff combining over 60 years of extensive experience in a variety of project areas. Their experiences range from boundary, topographic, and right-of-way surveying to intricate geodetic, construction, and hydrographic/bathymetric surveying.

WORKED WITH OUR TEAM

AC Schultes
Drilling Contractor

» **AC Schultes** has been a leader in large diameter deep water well construction and rehabilitation while assisting environmental clients with monitoring wells and soil borings. With eight offices located along the East coast, their service area extends from New York to Florida. The work for your project will be performed out of their Tampa office.

Youngquist Brothers, Inc.
Drilling Contractor

» **Youngquist Brothers** Established in 1971, Youngquist Brothers has become Florida's leading contractor of deep injection well systems, the preferred alternative to safely discharge high volumes of excess water. Innovative and results oriented, Youngquist Brothers is the only contractor to design, engineer and build all of its own equipment for precision well drilling to depths of 3,000 feet or more. No other company provides vertically integrated services, including geophysical logging and cementing, for every aspect of a deep well system. Working side by side with municipal utilities, environmental consultants and regulatory agencies, Youngquist Brothers consistently delivers on-time, turnkey results.

Tierra, Inc.
Geotech

» **Tierra** is a full-service consulting geotechnical, environmental and construction materials testing engineering firm. Tierra began operations in Florida in 1992 and has offices in Tampa, Winter Garden, Pensacola, and Niceville, Florida. Tierra has a long and successful history of providing superior and innovative service to its clients throughout the southeastern United States.

WORKED WITH OUR TEAM

Layne Christensen Company
Drilling Contractor

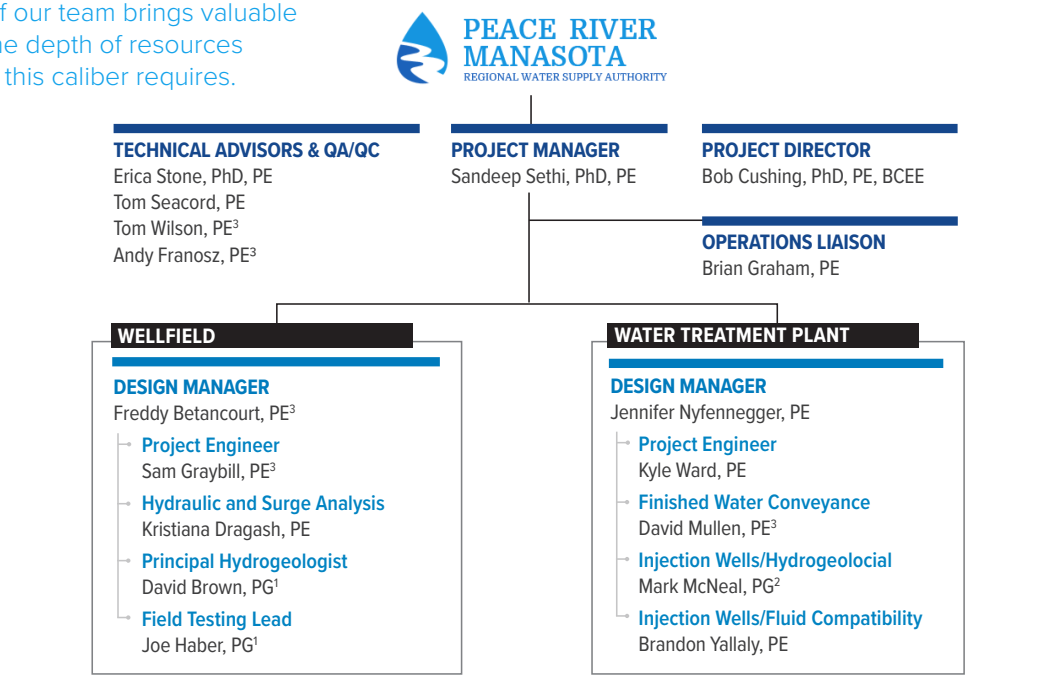
» **Layne Christensen** is a drilling company which started in 1882 and has now over 40 offices and affiliates in the United states and abroad. Layne's specialists are able to define the source, depth, magnitude and overall feasibility of water aquifers, and drill high-volume wells suitable for supplying water to government agencies, industrial and agricultural customers.



Pre-negotiated contracts with qualified drillers provides a critical path to project and schedule success.

A SUCCESSFUL AND PROVEN TEAM

Each member of our team brings valuable expertise and the depth of resources that a project of this caliber requires.



SUBCONSULTANTS

1. PWR/RESPEC
2. ARSus, LLC
3. Wade Trim
4. EarthBalance
5. ADS Engineering, PLLC
6. CA3
7. Hyatt Survey Services, Inc.
8. Tierra, Inc.

WHAT OUR CLIENTS ARE SAYING...

"Carollo has been the lead of a consortium of consultants providing design and support services to the Polk Regional Water Cooperative for six years. In this capacity they have led the design of two alternative water supply production facilities and the associated transmission lines and wellfields that are vital to the future of the Polk County area. Their performance has been exemplary and the projects would not be at the advanced design level without their ability to solve uncountable design, funding, coordination, and management issues. Even beyond those attributes, the staff assembled to work on these projects is a personable and dedicated group who are enjoyable to work with on a day to day basis!"

– Eric DeHaven
PRWC Executive Director

"Carollo involved us intimately in the work, provided great talent for all aspects of the project, and offered a truly refreshing degree of innovation and client responsiveness. Work for the County on numerous other assignments has demonstrated this level of superior service on projects of all sizes."

– Paul Mattausch,
Collier County

KEY TEAM MEMBERS



Sandeep Sethi, PE

PROJECT MANAGER

> I will make certain that your needs and expectations are met. I have faced similar challenges, as foreseen in this project, with other complex studies and designs, and will bring lessons learned to efficiently organize, resource, and successfully deliver a project of this magnitude.

EDUCATION

PhD/MS, Environmental Science and Engineering

BS, Civil Engineering

LICENSES

PE: FL #72562

PROFESSIONAL AFFILIATIONS

American Water Works Association

WaterReuse Association

LOCATION: Tampa, FL

PROJECT EXPERIENCE

- **Project manager/engineer of record, Polk Regional Water Cooperative, FL - West Polk Water Production Facility and Southeast WFP.** Managed technology selection and conceptual and preliminary designs for two large, complex, multi-million-dollar RO projects.
- **Project manager. City of Clearwater, FL - 6.25-mgd Water Treatment Plant-2 RO System Improvements Project.** Responsible for making improvements to WTP-2 to process and produce more water, addressing both water quality and water quantity.
- **Project manager. Tampa Bay Water, FL - Seawater RO Desalination Facility.** Helped minimize electrical and chemical costs for varying production rates under continuous and intermittent operational scenarios.



Bob Cushing, PhD, PE, BCEE

PROJECT PRINCIPAL

> This project represents a potential new dimension for the Authority's water portfolio, and I'm excited about the potential to work with you and our talented and dedicated team members to develop the best design concepts and cost estimates to support your goals.

EDUCATION

PhD/MS, Civil Engineer

BS, Petroleum Engineering

LICENSES

PE: FL #57828

PROFESSIONAL AFFILIATIONS

American Water Works Association

Water Environmental Federation

LOCATION: Sarasota, FL

PROJECT EXPERIENCE

- **Principal-in-charge. North Lee County, FL - Reverse Osmosis (RO) Water Treatment Plant from 4.9 to 11.6-mgd.** Bob oversaw the design phase of the design/build delivery of the improvements and expansion, which included major upgrades to the treatment plants electrical systems, increasing RO feed pump sizes from 75 to 200 HP, and the addition of a turbine assisted booster pump as interstage booster pump.
- **Project director. Fort Myers, FL - MSKP Town and County Utility Babcock Ranch Community Site**. Bob oversaw the design of the WTP that increased the flow from 0.25 to 1.25-mgd. This new water system consists of a new RO treatment plant, storage tank, high-service pump station, and distribution piping. RO concentrate is disposed to a reuse system and used for irrigation.



Freddy Betancourt, PE

DESIGN MANAGER (WELL FIELD)

WADE TRIM

> Having established a long working relationship with Authority Staff members, it is my personal commitment and priority that this project meet the Authority's goals and timeline. I am excited to share some of the great insights that this team has discussed and that could prove beneficial to the Authority.

EDUCATION

MS, Engineering

BS, Civil Engineering

LICENSES

PE: FL #68072

LEED Accredited Professional

LOCATION: Tampa, FL

PROJECT EXPERIENCE

- **Principal engineer and technical advisor, Sunrise, FL - Sawgrass International Corporate Park RCW Distribution System and ASR Raw Pipe.** Responsible for designing, permitting and bidding 23,000 ft of a reuse distribution system ranging between 4 and 36 inches in diameter and 7,000 ft of 16-inch HDPE for a new aquifer storage and recovery (ASR) well system.
- **Project engineer, Tampa Bay Water, Tampa, FL - Eagles Wells Water Supply Project.** Responsible for the preliminary engineering, environmental assessments, pipeline route development, evaluation, final design, permitting, public involvement, and bidding services to develop two water production wells and well houses, and the design and construction of 17,000 LF of 8-inch diameter raw water transmission main.



Jennifer Nyfennegger, PhD, PE

DESIGN MANAGER (WTP)

carollo

> I am excited for the opportunity to help the Authority diversify its water supply and treatment. I am passionate about membrane treatment and committed to delivering a design that meets the needs of the Authority and its customers.

EDUCATION

PhD/BS, Environmental Engineering

LICENSES

PE: FL #72234

PROFESSIONAL AFFILIATIONS

American Water Works Association

Water Environmental Federation

LOCATION: Sarasota, FL

PROJECT EXPERIENCE

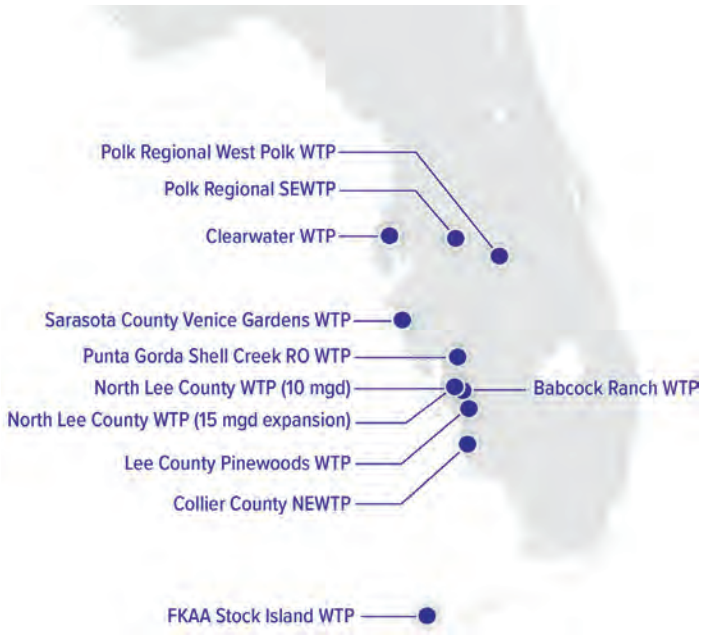
- **Project engineer, Clearwater, FL - RO WTP #2 Project.** Project consisted of rehabilitation to restore plant production to the original design capacity of 6.25-mgd. The RO process, which started up in 2015, has never reached design capacity due to elevated feed water TDS and fouling issues associated with recycling concentrate from WTP #1 into the feed water. Project includes evaluation of RO process improvements including a pilot study and ozone process testing to reduce bromate formation.
- **Process engineer. Lee County, FL - Babcock Ranch Utility Site Water Treatment Plant.** Project consists of a new RO treatment plant, degasification and odor control, chlorination, ground storage tank, high-service pump station, and distribution piping.

PROJECT EXPERIENCE

Lessons Learned and Experience Working Together as a Team - Carollo's Dedicated Team Members Bring a Wealth of Similar Regional Successful Project Experience

Our team has a proven track record for delivering design and construction projects for our clients throughout Southwest/Central Florida.

Equally important, we know how to work together **to provide our clients a high-quality project with the best value**—we've done it many times before. The table below demonstrates similarities of these projects with the Authority's Brackish Groundwater project, and several project descriptions follow to provide additional detail.



Similar Southwest/Central Florida projects demonstrate Carollo's comprehensive experience in all aspects of the Authority's Brackish Groundwater project.

Project	Planning	Design	Permitting	Construction Management	Injectate Compatibility Analysis	Optimal/Resilient Treatment	FDEP UIC	FDEP WTP	WMD/FDEP ERP	SCADA / I&C	Surveying	Geotech	Hydraulic Modeling	Well Field	Finished Water Quality	Pumping/Conveyance	Funding
Polk Regional Southeast WTP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Polk Regional West Polk WTP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
North Lee County WTP (10-mgd)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
North Lee County WTP (15-mgd expansion)	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Clearwater RO WTP No. 2	✓	✓	✓	✓	✓	✓		✓		✓			✓		✓	✓	
Babcock Ranch WTP	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Collier County Northwest WTP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lee County Pinewoods WTP	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FKAA Stock Island WTP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sarasota County Venice Gardens WTP	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓		✓	✓	
Punta Gorda Shell Creek RO WTP			✓		✓		✓		✓					✓			

Polk Regional Southeast WTP & West Polk WTP

Polk County, FL



Project Background

The communities in Polk County represent the second fastest growing area in the US. While this growth has fostered new boons for the County, it has also placed burdens on the Upper Floridan aquifer, the traditional, but limited source of water supply for all Central Florida's public water systems. To help meet future demands, the Polk Regional Water Cooperative approved the following four water supply projects and corresponding pipelines, for which water quality and treatment evaluations, as well as conceptual and preliminary designs are included in the combined project:

1) Southeast Wellfield and Water Production Facility (15-mgd), conceptual and preliminary designs, 2) West Polk Wellfield and Water Production Facility (10-mgd), conceptual and preliminary designs, 3) Peace Creek Integrated Water Resources Project (5-10-mgd), preliminary design, and 4) Peace River and Land Use Transitions Project (up to 30-mgd), conceptual design.

How We Helped

The Southeast WPF and West Polk WPF projects included water quality analysis of the Lower Floridan Aquifer, identification of quantity and quality of water available from the wellfields; evaluation of treatment options, bench-scale testing, and recommendation for the most technically and economically viable process to treat the water; post treatment requirements; hydraulic modeling, and water quality modeling (using Blue Plan-it®) for compatibility of treated regional water with member governments' water distribution systems in terms of all stability and corrosion control indices; determination of the most viable option for disposing waste residuals; development of conceptual and preliminary facility designs for the recommended treatment process; and costs estimates for the treatment facilities.

Project Outcome

The designs allow for a flexible operating range of 75 to 80 percent recovery. Phase 2 of the project is ongoing and includes final design of both facilities.

Relevance to the Authority

- Very similar and recent projects in terms of new brackish RO facilities, wellfield, treatment, concentrate and concentrate management and disposal
- Design features to accommodate changes in raw water quality
- Consistent dedicated team members bring proven experience and lessons learned directly to the Authority project
- Multi-government stakeholder group
- Similar PDR/30% deliverable package with project decision point

COST

- $94M

PROJECT COMPLETION

- Phase 1: 2017 - 2021 (Conceptual Design & Predesign)
- Phase 2: Ongoing

PROJECT ELEMENTS

- Evaluation, pre-design, design

TEAM MEMBERS

- Sandeep Sethi
- Bob Cushing
- Mark McNeal
- Brandon Yallaly
- Vinnie Hart
- Seema Chavan
- Minur Al-Suleh
- Rich Warner
- Chad Green

North Lee County WTP 10-mgd & 15-mgd Expansion

Lee County, FL



Project Background

The rehabilitation and expansion of the North Lee County RO WTP resulted in successful correction of treatment plant deficiencies and expansion of the plant capacity to 10-mgd. After the success of that project, the County retained the same team in 2021 to further expand the plant to 15-mgd.

How We Helped

Carollo was retained to provide planning, design, permitting, and engineering services during construction of the improvements and expansion.

The project included an RO pilot study to test acid elimination from the RO feed water and the effectiveness of antiscalants. The need for sulfuric acid from the RO feed water was eliminated, thereby improving operator safety and reducing the cost of treatment.

During the first phase of the project, Carollo facilitated multiple day-long workshops at the plant with the County. Each workshop was used to discuss concepts and options and review preliminary documents and plans. During the construction phase of the project, the Carollo team met weekly with County staff to review design clarifications, shop drawings, and RFIs. In addition, Carollo worked closely with plant staff to develop a comprehensive set of standard operating procedures and developed a user-friendly electronic O&M manual.

Project Outcome

The plant was successfully rehabilitated and expanded from 4.9 to 10-mgd permeate capacity in 2011. The project was completed within an aggressive schedule and required creative planning and building to keep the water treatment plant operating during construction. **It is estimated that the sulfuric acid elimination reduced the County's operating costs by as much as $334,000 per year.** The project is currently under construction to further expand the plant's capacity to 15-mgd and upgrade the electrical system to Class 1 reliability.

Relevance to the Authority

- Similar and recent experience with brackish RO facilities, wellfield, treatment, concentrate management, and disposal
- Consistent dedicated team members bring proven experience and lessons learned directly to the Authority project
- Consistent regulatory agencies
- Alternative project delivery
- Florida and National DBIA Project of the Year Award Winning project



COST

- $18.5M (expansion to 10-mdg
- $40M (expansion to 15-mgd)

PROJECT COMPLETION

- 2011 (expansion to 10-mgd)
- Scheduled completion 2025 (expansion to 15-mgd)

PROJECT ELEMENTS

- Planning, design, permitting, ESDC

TEAM MEMBERS

- Tom Seacord
- Jen Nyfennegger
- Bob Cushing
- Alex Stojanovic
- Alan Anderson
- Rich Warner
- Chad Green

Babcock Ranch Water Treatment Plant

Lakewood Ranch, FL



The Phase 2 Project for Babcock Ranch Utility System expanded the water treatment plant from 0.25-mgd to 1.25-mgd and consists of a new RO treatment plant, degassification, odor control, chlorination, ground storage tank, high-service pump station, and finished water piping. All piping systems and infrastructure have been designed to transition to future phases with minimal demolition and rework. Carollo is serving as the Engineer of Record and provided all planning, design, permitting, and engineering services during construction. **Carollo's value engineering services helped reduce the construction cost by $2M.**

COST
- $12M

PROJECT COMPLETION
- 2015 - 2016

TEAM MEMBERS
- Jen Nyfennegger
- Bob Cushing
- Kyle Ward
- Tom Seacord
- Brian Graham
- Alex Stojanovic
- Rich Warner
- Chad Green

Clearwater RO WTP No. 2 Improvements

Clearwater, FL



The WTP No. 2 improvements project addresses challenges related to source water quality and finished water production at the Plant while maintaining wellfield redundancy and reliability. Problematic water quality issues include: bromate, increasing raw water TDS, and impacts from RO concentrate. Phase A of the project consisted of desktop evaluations of the RO and ozone systems (completed), full-scale testing of the ozone system (completed), and pilot-scale and full-scale testing for the RO system (ongoing). Phase B will implement the design and construction of the selected improvements from Phase A evaluations.

COST
- $1.4M

PROJECT COMPLETION
- 2019 - Ongoing

TEAM MEMBERS
- Sandeep Sethi
- Jen Nyfennegger
- Bob Cushing
- Brandon Yallaly

Collier County Northeast WTP

Collier County, FL



Carollo provided permitting and design-phase services for a new 5-mgd (ultimate 10-mgd) Northeast Water Treatment Plant which will be co-located with a water reclamation facility, sharing common facilities. The WTP will utilize RO membranes to treat a brackish groundwater supply blended with ion exchange treated fresh groundwater, and will have an ultimate capacity of 10-mgd. **This project was shelved for several years and recently Carollo was selected by the County to re-design the plant.**

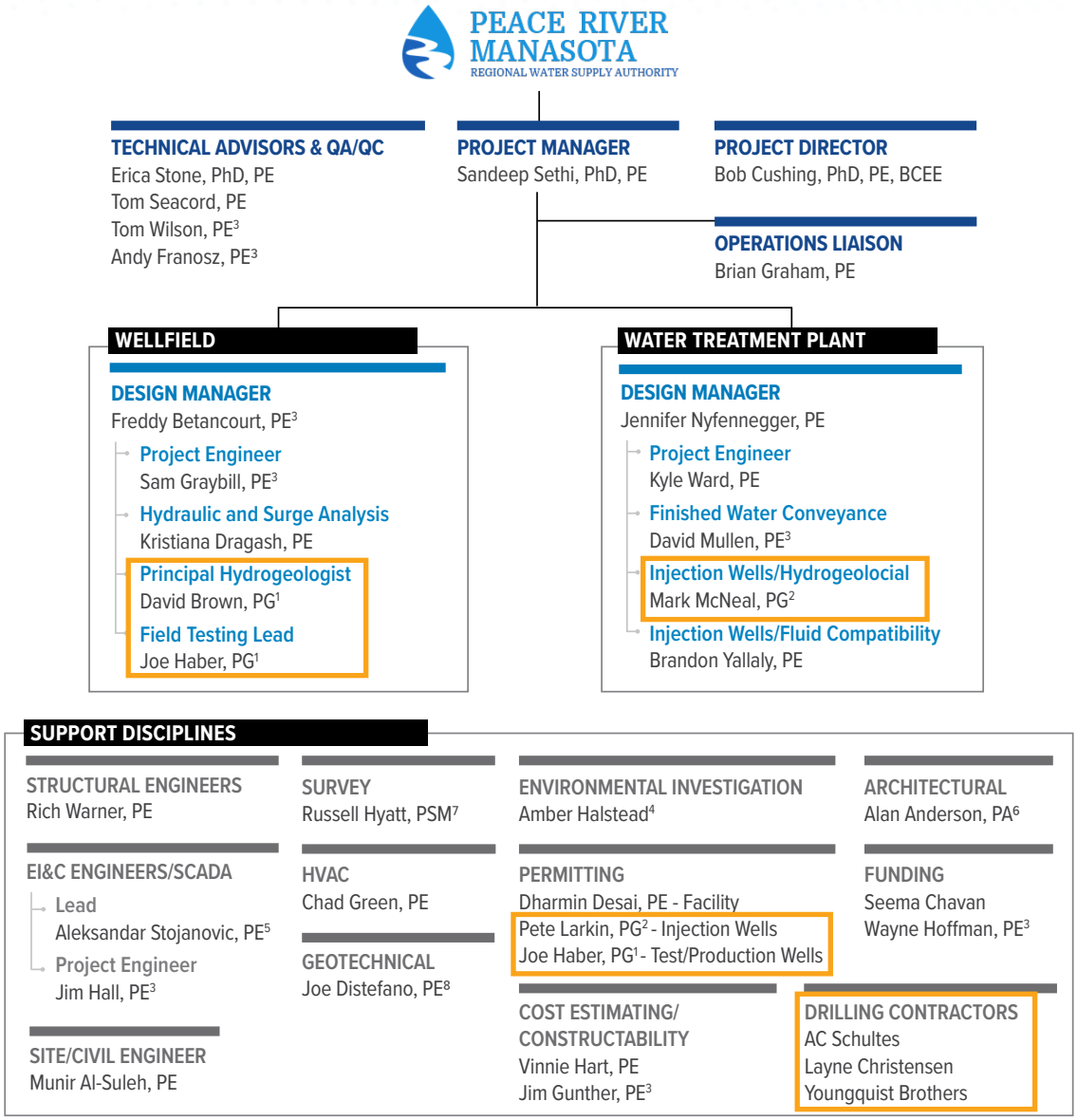
COST
- $86M

PROJECT COMPLETION
- Start Date: 2/2005 (Design update anticipated 5/2023)
- Completion Date: 5/2027

TEAM MEMBERS
- Bob Cushing
- Sandeep Sethi
- Jen Nyfennegger
- Dharmin Desai
- Alan Anderson
- Alex Stojanovic
- Rich Warner
- Chad Green

Consultant Team's Hydrogeologic Experience

3 Consultant Team's Hydrogeologic Experience



SUBCONSULTANTS

1. PWR/RESPEC
2. ARSus, LLC
3. Wade Trim
4. EarthBalance
5. ADS Engineering, PLLC
6. CA3
7. Hyatt Survey Services, Inc.
8. Tierra, Inc.

> Pete and Mark's understanding of the subsurface conditions likely to be encountered on this well paid dividends in getting an additional 500 feet of exploratory hole drilled, and additional testing conducted within the existing project budget. The Authority appreciates the project team's excellent performance on this exploratory well."
>
> – Mike Coates, Executive Director
> PRMRWSA
> *Exploratory Concentrate Disposal Well Project at the Peace River Facility*

KEY TEAM MEMBERS



David Brown, PG

PRINCIPAL HYDROGEOLOGIST

> I have managed the installation and performance testing of numerous wells systems, as well as supervised detailed hydrogeologic investigations, and will bring this depth of experience to your project.

EDUCATION

BS, Geology

LICENSES

PG: FL #566

FIRM

PWR/RESPEC

LOCATION

Sarasota, FL

PROJECT EXPERIENCE

- **Water Resource Development.** David has managed the installation and performance testing of municipal drinking water, irrigation, and remedial recovery well systems, including statistical analysis of well yield, water quality, and efficiency.
- **Water Quality.** David has co-authored and provided technical expertise for the Shell Creek and Prairie Creek Watersheds Management Plan to provide reasonable assurance for TMDLs. FDEP considers this effort a template for TMDL reasonable assurance plans throughout the state.
- **Total Maximum Daily Loads.** While with the SWFWMD, David developed a management plan to provide reasonable assurance documentation to address TMDLs in two Class I watersheds that supply drinking water to the City of Punta Gorda.



Mark McNeal, PG

INJECTION WELL/ HYDROGEOLOGICAL

> I have a long history working with PRMRWSA and I'm intimately familiar with their water supply systems and subsurface conditions. I will apply this experience to help bring your projects to a successful completion.

EDUCATION

BS, Geological Engineering

LICENSES

PG: FL #1231

FIRM

ASRus

LOCATION

Tampa, FL

PROJECT EXPERIENCE

- **Senior hydrogeologist. Manatee County, FL - Injection Well Programs.** Oversaw programs to install two injection wells at the North WRF, a recharge well at the Southwest WRF, and the Piney Point injection well.
- **Project manager. City of St. Petersburg, FL - Deep Injection Well Expansion.** Oversaw the design, permitting and construction of four additional deep injection wells increasing the wet weather disposal available to the City by an additional 88-mgd.
- **Senior hydrogeologist and lead permitter. City of Tampa, FL - Tampa Augmentation Project.** This project is proposed to recharge up to 50-mgd of reclaimed water to provide potable reuse opportunities to the City.



Joseph Haber, PG

FIELD TESTING LEAD AND PERMITTING - TEST/ PRODUCTION WELLS

> PWR/RESPEC staff have worked with PRMRWSA since 2007 and successfully permitted a 9-mgd brackish wellfield in 2022. I am committed to working with Carollo to facilitate the successful testing, design, and construction of the Authority's brackish wellfield.

EDUCATION

MS, Hydrogeology

BS, Environmental Science and Policy

LICENSES

PG: FL #2631

FIRM

PWR/RESPEC

LOCATION

Tampa FL

PROJECT EXPERIENCE

- **Regulatory technical lead. Manatee, Sarasota, Charlotte and DeSoto Counties, FL - PRMRWSA Brackish Wellfield Water Use Permitting.** The project included the modification of the Authority's WUP to add a 9-mgd brackish wellfield to the Authority's supply sources.
- **Hydrogeologist. Punta Gorda, FL - Groundwater Feasibility Study.** Performed a comprehensive assessment of: hydrogeologic data and literature for both the Intermediate Aquifer System (IAS) and Floridan Aquifer System (FAS).
- **Principal hydrogeologist. Punta Gorda, FL - Brackish Wellfield Production Well No. 4 Testing and Evaluation.** Assisted the City in testing and evaluating Brackish Production Well No. 4 which had exhibited a steady increase in TDS since wellfield startup.



Pete Larkin, PG

PERMITTING - INJECTION WELLS

> I have been actively involved with PRMRWSA since 2003. I have been the project manager for hydrogeologic service contracts providing regulatory support since 2009, and will bring this experience to your project.

EDUCATION

BA, Natural Science

LICENSES

PG: FL #2793

FIRM

ASRus

LOCATION

Tampa, FL

PROJECT EXPERIENCE

- **Project manager. City of St. Petersburg, FL - Municipal Injection Well and ASR.** Responsible for the City's injection well expansion project that includes the permitting, design, and construction of four Class I Injection wells for excess reclaimed water disposal.
- **Project manager and senior hydrogeologist. Manatee County, FL - UIC Program.** Responsible for overseeing the Class V AR well construction that is permitted to recharge up to 15-mgd of reuse water in the Avon Park high-permeability zone of the UFA. He is also the senior hydrogeologist for the construction of an LFA Class V municipal injection well and an LFA Class I industrial municipal/RO concentrate disposal well to 3,500 feet, recently constructed at the County's North Regional WRF.
- **Technical and regulatory support. City of Tampa, FL - ASR and TAP Programs**. Responsible for managing the permitting of three Class I deep injection wells at the City's water treatment facility.

RELEVANT PROJECT EXPERIENCE

Brackish Wellfield Production Well No. 4 Testing and Evaluation

Punta Gorda, FL



PROJECT DATES

2022

BUDGET

$27,300

TEAM MEMBERS

Joe Haber - Hydrogeologist

Since wellfield startup, brackish Production Well No. 4 was exhibiting a steady increase in total dissolved solids (TDS) concentrations, most recently, in excess of 3,500 mg/L. PWR/RESPEC was contracted through Carollo Engineers to test and evaluate the status of Well No. 4 and to evaluate whether back-plugging of the well had the potential to improve water quality and sustain production of lower TDS raw water. The City retained Layne, A Granite Company (Layne) to provide well contractor services and PWR/RESPEC provided hydrogeologic services, including: 1) Preparation of Technical Specifications and Well Contractor Bid Package, 2) Well Contractor Selection Assistance, 3) Oversight of Testing and Geophysical Logging Activities, and 4) Evaluation of Test Data and Development of Technical Memorandum.

Peace River Manasota Regional Water Supply Authority Brackish Wellfield Water Use Permitting

Sarasota, Charlotte, Manatee, and Desoto Counties, FL



PROJECT DATES

April 2022 - October 2022

BUDGET

$60,350

TEAM MEMBERS

David Brown - Hydrogeologist
Joe Haber - Hydrogeologist

With PWR/RESPEC's assistance, the Authority submitted a modification of WUP 20010420.011 to the District on April 1, 2022, that included a request for authorization to add a brackish water wellfield consisting of 10 proposed production wells to the Authority's permit. The permit was issued by the District on October 18, 2022, which authorized a 9.0-mgd brackish wellfield at the RV Griffin Reserve.

PWR/RESPEC provided the following services for this successful project: 1) Wellfield and Production Well Design, 2) Development of the WUP application and Supporting Information Narrative, 3) Groundwater Flow Modeling, 4) Impact Analysis to determine potential impacts to environmental feature, legal existing users and Minimum Flows and Levels, 5) Development of a proposed Wellfield Management Plan, and 6) SWFWMD negotiations and coordination.

Preliminary Project Understanding, Approach, and Schedule

4 Preliminary Project Understanding, Approach, and Schedule

The Peace River Water Treatment Facility (PRF) has consistently provided a reliable water supply to the Region for decades, and this project supports the future of PRF for decades to come.

UNDERSTANDING THE PROJECT

The Authority owns and operates the 51-mgd Peace River Water Treatment Facility (PRF). The PRF was originally constructed five decades ago with numerous expansions and improvements over the years. The PRF has consistently provided reliable water supply to the Region, leveraging innovative ASR and off-stream reservoir systems to maximize the beneficial use of the Peace River water resource.

Additional water production is needed to support growth and development within the Region. To meet this demand, the Authority is considering two projects:

1. A new off-stream reservoir, PRF expansion, and other facilities to support additional surface water supply.
2. Development of a brackish groundwater supply.

The Authority must determine which project to implement in the near-term, and definitive hydrogeological and engineering analysis, preliminary design, and reliable cost estimates are required in a timely manner to support that decision. This Brackish Groundwater Facility Project is intended to provide the Authority with the information to allow selection of their next water supply development project by the April 2024 Authority Board meeting and production from the new supply by early 2028.



TECHNICAL APPROACH

An Overall Approach Focused on Goals, Challenges, and Opportunities

Reliable and definitive engineering and hydrogeologic analysis, design development, and cost estimates delivered early enough for the Authority to determine their next project and prepare for the April 2024 Authority Board meeting are the overarching goals that frame this project. In fact, this goes beyond project "goals" and are the project requirements for success. Our overall approach is focused on meeting these project requirements and is the definition of success. Our primary strategies are outlined in the table on the following page.

Our technical approach builds on our team's understanding of the requirements for project success, experience of our team working together on similar projects, and an unwavering commitment to the Authority.

Challenges, opportunities, and solutions provide the framework for a successful approach.

Challenge	Opportunity/Solution
Inherent subsurface hydrogeologic uncertainty	▪ Engage the best hydrogeological talent (RESPEC and ASRus), and effectively leverage our long-track record of delivering successful projects with both of them ▪ Early engagement of qualified drillers (Carollo has master agreements in place with Schultes and Layne for this project) ▪ Hands-on, real-time collaboration with drillers during planning and well drilling
Compressed Schedule	▪ Fully leverage all existing information and data ▪ Fast-track driller mobilization ▪ Fully leverage information and lessons-learned on multiple recent similar projects in the region completed by Carollo and team members ▪ Experienced, dedicated team members with proven experience working together effectively as a team ▪ Effective, continuous communication with Authority staff
Accurate cost estimates	▪ Apply Carollo's proven cost estimating approach and team ▪ Ground-truth cost estimates with local, qualified contractors

PRODUCTION WELL HYDROGEOLOGICAL APPROACH

Understanding the Hydrogeology

The Water Use Permit (WUP) modification authorizes brackish groundwater withdrawals up to 9.0 million gallons per day (mgd) on both an annual average and peak month basis. The successful construction and operation of the proposed brackish groundwater wellfield capable of supplying permitted quantities requires comprehensive knowledge of both hydrogeology and well construction. The hydrogeology at the Peace River Facility (PRF) and the RV Griffin Reserve is comprised of three major hydrostratigraphic units identified as:

- The Surficial Aquifer System (SAS)
- The Intermediate Aquifer System (IAS), also referred to as the Intermediate Confining Unit
- The Floridan Aquifer System (FAS)

The FAS is subdivided into the Upper Floridan Aquifer (UFA) and Lower Floridan Aquifer (LFA). The WUP authorizes up to 1.8-mgd from six IAS production wells, and up to 7.2-mgd from four UFA production wells, therefore both hydrostratigraphic units must be evaluated to understand yield and potential raw water mixing ratios. The long-term operation of the reverse osmosis water treatment plant will require groundwater influent that possesses a relatively consistent water quality and reinforces the need for extensive hydrogeologic knowledge and experience in both the IAS and FAS.

The SAS is unconfined and consists of unconsolidated siliciclastic deposits and is primarily recharged by infiltration from rainfall. At the PRF, aquifer systems underlying the SAS have greater potentiometric elevations and therefore exhibit an upward flow gradient. Consequently, most water movement in the SAS is lateral and is typically governed by topography, with groundwater flows moving away from areas of higher elevation and towards lower areas such as streams, lakes, or wetlands.

The IAS (also known as the Intermediate Confining Unit) is a complex sequence of interbedded, variably consolidated, sediments predominately associated with the Arcadia Formation which is comprised of two permeable zones (PZs), referred to as the Upper Arcadia zone (or PZ2) and the Lower Arcadia zone (or PZ3). The Lower Arcadia zone is often more productive, exhibits artesian flow, and has greater confinement from the overlying SAS. The Lower Arcadia zone has been identified as occurring at depths between 200 to 350 feet below land surface (bls) and is fresh to slightly brackish, with an average Total Dissolved Solids (TDS) concentration of approximately 550 milligrams per liter (mg/L). Production capacity from the Lower Arcadia can be highly variable, however individual wells finished into this zone can produce between 0.3 to 1-mgd. Care must be taken during well construction to avoid having the open hole constructed into the underlying Nocatee Member of the Arcadia Formation, that occurs at depths of approximately 400 feet bls, due to the presence of loose, fine-

grained quartz sand. Withdrawals from the Lower Arcadia zone are not anticipated to result in adverse impacts to the SAS due to the confining characteristics of a thick sequence of carbonates and clay overlying the permeable zone; however, SWFWMD's newly released District-Wide Regulation Model Version 4 (DWRM4) indicates that permitted withdrawals from the Lower Arcadia zone may result in drawdowns in the SAS. Given the model's prediction of SAS drawdowns, a successful Test Plan must be able to verify the confining characteristics of the overlying sediments and their ability to impede drawdowns resulting from the Lower Arcadia zone withdrawals.

The highly artesian Suwannee Limestone and Avon Park Formation permeable zones occur within the UFA and are separated by a semi-confining layer represented by the Ocala Limestone. The Suwannee Limestone permeable zone is currently used by the PRF for their Aquifer Storage and Recovery (ASR) system and extends from approximately 550 feet to 850 feet bls. The Suwannee Limestone permeable zone is more saline than the IAS with an average TDS concentration of approximately 1,000 mg/L. Under high rates of withdrawal, this zone has shown increases in salinity due to upconing of denser, more mineralized groundwater as evidenced by water quality changes at ASR Wellfield No. 2. However, the Suwannee Limestone should be considered as a possible water supply source if testing determines that withdrawals will not adversely impact the Authority's operation of ASR Wellfield No. 2. Recent testing of several Suwannee Limestone ASR wells at the PRF indicate yields between 0.7 and 1.2-mgd. It should be noted that DWRM4 also indicates a significant upward movement of groundwater from the Avon Park Formation, through the Ocala Limestone semi-confining unit, when Suwannee Limestone production wells are simulated. The Test Plan will also need to verify the confining characteristics of the Ocala semi-confining unit to determine the feasibility of utilizing the Suwannee Limestone as a possible brackish water supply source.

The Avon Park Formation is currently not utilized by the PRF; however, much testing has occurred in this zone using a single ASR test well (AP-1), constructed in 1993. AP-1 has a reported open hole interval from 1,303 to 1,484 feet bls, however geologic descriptions during its construction indicate that the top of the Avon Park Formation was encountered at approximately 1,000 feet bls. Testing at AP-1 indicates the presence of a highly permeable zone below 1,400 feet bls and individual wells open to the highly fractured portions of the Avon Park Formation are highly productive and can yield between 3 to 5-mgd. Groundwater from the Avon Park Formation's permeable zone is also highly mineralized as evidenced by a 3-day pumping test performed in 1993 in which the Total Dissolved Solids (TDS) concentration increased from 1,500 mg/L to 2,800 mg/L. A longer 90-day pumping test was also conducted at AP-1 in 1994 where TDS concentrations stabilized between 3,000 and 3,400 mg/L. A more recent 8-hour pumping test was conducted in 2013 at a rate of 3-mgd and yielded a TDS value of 5,350 mg/L. Clearly, water quality in the Avon Park Formation's highly permeable zone has not remained stable.

While AP-1's open hole interval results in its production being derived from the highly fractured zone below 1,400 feet bls, withdrawals from the upper Avon Park Formation, from approximately 1,000 to 1,350 feet bls, may present a more stable brackish source of groundwater. The water supply capabilities of the upper Avon Park Formation, that excludes the highly fractured zone, is expected to be lower and comparable to the overlying Suwannee Limestone permeable zone. As stated above, water quality testing of AP-1 indicates a steady increase in dissolved constituents since its construction in 1993. Therefore, it will be imperative that the Testing Plan includes methodologies for determining a sustainable yield for the upper Avon Park Formation. Results from the Testing Plan may ultimately determine that a combination of Suwannee Limestone and upper Avon Park Formation production wells can satisfy the need for more stable source water quality necessary to prolong the operational life of the proposed brackish groundwater wellfield. In addition, given the inherent differences in yield and water quality expressed by each brackish water production well, a Wellfield Management Plan (WMP) that employs production well rotation, variable frequency drives (VFDs), production well water quality guidance levels, and monitor well trigger levels is considered essential.

Brackish Groundwater Well Construction

The primary objective of the "Brackish Wellfield Test Plan" is to identify sustainable yield and water quality of permeable zones within the IAS (Lower Arcadia zone) and the UFA (Suwannee Limestone and Avon Park Formation) as well as determining the efficacy of the confining or semi-confining units above and below the respective permeable zones. While the Authority's WUP has specifically identified the Avon Park Formation as a potential supply source, the Suwannee Limestone should also be evaluated to determine if potential impacts to the Authority's existing ASR wellfield can be minimized. Therefore, the Test Plan must be designed to gather hydraulic information on the three permeable zones and associated confining units. In addition, after testing has been completed and final production well construction specifications determined, it is desirable that test wells are to be converted into finalized production wells. Therefore, a forward-thinking approach that considers testing and finalized well construction must be employed.

Preliminary assessments of wells constructed at the PRF indicate that it is possible to complete testing of the three permeable zones (Lower Arcadia, Suwannee Limestone, and the Upper Avon Park Formation) using two (2) test-production wells and a single (1) Surficial Aquifer System monitoring well. One test-production well is proposed to be used for the Lower Arcadia zone testing and the second used for Suwannee Limestone and upper Avon Park Formation testing. Given the variable yield characteristics of the IAS, it is suggested that the diameter of the Lower Arcadia zone test-production well be decreased to 12 inches, instead of the permitted diameter of 16 inches, as a cost savings measure. The proposed reduction in well casing diameter may require a WUP Letter Modification.

Lower Arcadia Zone Test/Production Well

Test-production well drilling would begin at each of the two locations by setting large diameter surface casings through the SAS. A smaller diameter pilot hole (using a 9 7/8-inch bit) would then be advanced downward through the confining unit sediments, using mud rotary drilling techniques, until the Upper Arcadia permeable zone is reached. Lithologic samples (drill cuttings) will be collected at a minimum of every 5 feet and undisturbed Shelby Tubes and core samples of the confining sediments above the Lower Arcadia permeable zone will be collected and used for subsequent laboratory permeameter testing. The pilot-hole will be advanced through the Lower Arcadia permeable zone, with lithologic samples continuing to be collected every 5 feet and terminate into the top of the underlying confining sediments. Geophysical logging of the pilot hole is then proposed to occur. After completion of geophysical logging, a final casing depth would be determined for the Lower Arcadia test-production well and the well be reamed to total depth. In addition to the Lower Arcadia test-production well, a small diameter SAS monitoring well will be installed at a depth of approximately 25 feet bls, within approximately 50 feet of the Lower Arcadia test-production well location.

After the Lower Aquifer test-production well is fully developed, a step-drawdown and a 10-day constant rate aquifer pump test will be performed to gather site specific aquifer parameters including transmissivity, storage, and leakance for use in an updated (site specific) groundwater flow model if deemed necessary. Testing is proposed to be performed when the PRF is not actively injecting or withdrawing from their ASR wells. Water quality field measurements will be monitored throughout testing and prior to the completion of pump testing, a primary and secondary drinking water sample will be collected. Water level monitoring of the Surficial Aquifer System will occur prior to (background), during, and after testing of the Lower Arcadia zone to verify the competence of the confining unit and the validity of the DWRM4 modeling results. Results from the testing and groundwater flow modeling simulations will be used to better understand this hydrologic unit's ability to safely meet the 2-mgd envisioned by the WUP.

Suwannee/Avon Park Test/Production Well

A similar approach is proposed for the second test-production well, however after installation of the large diameter surface casing, pilot hole drilling using a 9 7/8-inch bit will continue below the Lower Arcadia until the Suwannee Limestone has been encountered and will extend approximately 25 feet into the top of the unit. Lithologic samples (drill cuttings) will be collected at a minimum of every 5 feet and undisturbed Shelby Tubes and core samples of the confining sediments below the Lower Arcadia

permeable zone will be collected and used for subsequent laboratory permeameter testing. The pilot hole will then be geophysically and video logged and a final casing set depth to isolate sediments above the Suwannee Limestone will be determined. The pilot-hole will then be reamed-out to a diameter appropriate for a second, or intermediate casing, that isolates the Suwannee Limestone. The intermediate casing will be pressure grouted in place. The pilot hole will then be advanced through the entire thickness of the Suwannee Limestone and upon completion will be geophysically and video logged.

Testing is proposed to be similar to that performed on the Lower Arcadia permeable zone, with a step-drawdown and 10-day constant rate aquifer pump test proposed at a flow rate of approximately 200 gallons per minute (gpm). UFA testing is proposed to be performed when the PRF is not actively injecting or withdrawing from their ASR wells. Water quality will be monitored and at the end of testing, primary and secondary drinking water samples will be collected. Suwannee Limestone parameters of transmissivity, storage and leakance will be determined for the Suwannee Limestone and used in the updated (site specific) DWRM4 modeling to review predicted impacts to ASR Wellfield No. 2 if deemed necessary. During testing, water levels will be monitored in the Lower Arcadia permeable zone test-production well, Wellfield No. 2 ASR production and monitoring wells. Note that all groundwater discharged as part of testing of the Suwannee Limestone may require additional testing for arsenic based on previous concerns from the Florida Department of Environmental Protection (FDEP). Ultimately, discharged water from the Suwannee Limestone may have to be routed to the Authority's Reservoir No. 1.

Upon the completion of discrete testing on the Suwannee Limestone, the pilot hole will be advanced through the Ocala Limestone semi-confining unit and into the upper Avon Park Formation and terminate above the highly fractured zone at a depth of approximately 1,350 feet bls. Lithologic samples (drill cuttings) will be collected at a minimum of every 5 feet and limestone core samples of the Ocala Limestone will be collected and used for subsequent laboratory permeameter testing. Geophysical and video logging will again occur and, upon completion, packers will be set in the Ocala Limestone to isolate the upper Avon Park Formation from the Ocala and Suwannee Limestones. Discrete testing of the upper Avon Park Formation is proposed to be similar to that performed on the Suwannee limestone, with a step-drawdown and 10-day constant rate aquifer pump test proposed at a flow rate of approximately 1,000 gpm. During testing, water levels will be monitored in the Lower Arcadia permeable zone test-production well, the Suwannee Limestone above the packers, in addition to the Authority's ASR Wellfield No. 2 production and monitoring wells. Water quality will be monitored throughout testing of the upper Avon Park Formation, with primary and secondary drinking water samples again being collected. Parameters of transmissivity, storage, and leakance for the upper Avon Park Formation will be determined and used in the updated (site-specific) DWRM4 model to complete an updated DWRM4 model for the PRF if deemed necessary. Discharged water from Avon Park will need to be routed to the Authority's Reservoir No. 1 due to elevated TDS concentrations.

After discrete testing is completed for the Suwannee Limestone and upper Avon Park Formation, a combination test (Ocala Limestone packers removed) will be performed to ascertain production and water quality characteristics from a well open to the Suwannee / Ocala Limestones and the upper Avon Park Formation. Testing will include a step-drawdown and 10-day constant rate aquifer pump test, however aquifer parameters previously determined are not proposed to be repeated. During testing water levels will again be monitored in the Lower Arcadia permeable zone test-production well and the Authority's ASR Wellfield No. 2 production and monitoring wells. Water quality will be monitored throughout testing of this longer production interval, with primary and secondary drinking water samples again being collected.

The proposed Suwannee/Avon Park Test Plan approach includes considerable flexibility in that the second test-production well could be finalized as: 1) exclusively a Suwannee Limestone well via back-plugging of the deeper pilot-hole and reaming out the pilot-hole to an appropriate diameter; or 2) a combination Suwannee/Ocala/upper Avon Park well by reaming-out the entire pilot-hole depth; or 3) exclusively an upper Avon Park Formation well, by the installation of a tertiary and final casing telescoped inside the intermediate casing that was terminated at the top of the Suwannee Limestone

and reaming to the nominal diameter of the final casing. Based on the proposed comprehensive testing of the IAS and FAS, a final production well design will be recommended. It should be noted that depending on the final production well design, the WUP may require formal modification and use of the site-specific groundwater flow model if deemed necessary.

Alternative Expedited Well Construction and Testing Approach

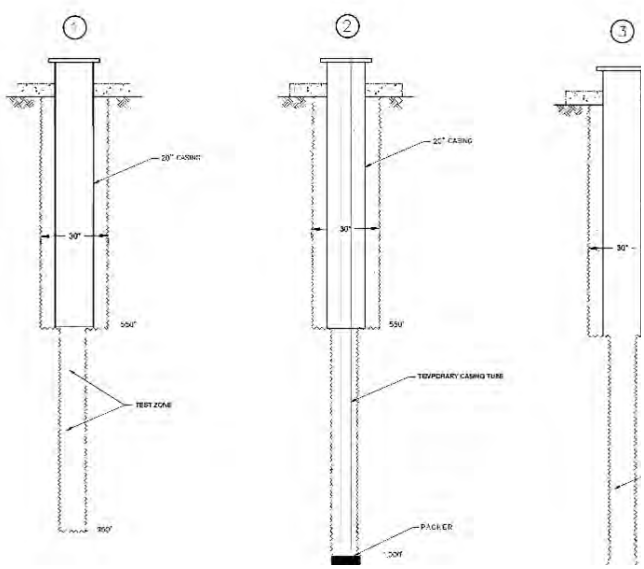
Due to the time constraints inherent in the SOQ that require the 30% Preliminary Design Report (PDR) to be delivered to the Authority by the April 2024 Board Meeting, our team has leveraged our past relationships with local drillers and have a firm commitment to begin testing and construction within 30 days after the June 7, 2023, contract execution date to required SOQ timeframes. In addition, PWR/RESPEC has developed an alternate proposed well construction and testing approach which includes removal of the Lower Arcadis Aquifer (LAA) test/production well and a small monitor well, in attempt to present the best chance to complete the well construction and testing activities by the required time frame.

Given the page limitation included in the response to this RFQ, the following section is intended to provide an overview of the expedited combined Suwanee/Avon Park well and testing approach. A very detailed protocol is available, and our team would gladly walk Authority staff members through the procedure if needed during the interview process.

Suwannee/Avon Park Test/Production Well

The expedited procedure is broken down into three major steps:

1. Suwanee Test (550’ to 950’):
   - » 30” reamed borehole is encased to a depth 550 feet (20” casing) through the Surficial Aquifer System to the Suwanee Limestone.
   - » A pilot bore (9 7/8”) is then drilled to 950 feet through the Suwanee Limestone to the Ocala Limestone.
2. Avon Park Test (1,000’ to 1,350’)
   - » Extend pilot bore is extended through the Ocala Limestone to a depth of 1,350 feet.



   - » Packers are set right below the Ocala Limestone (approximately 1,000 feet deep) to isolate the Avon Park formation.
3. Suwanee/Avon Park Test (550’ to 1,350’)
   - » Remove packers
   - » Test combined Suwanee/Avon Park well to determine yield and water quality.

Testing at each step includes 12-hour step drawdowns at 200 gpm, 350 gpm and 500gpm (1,000 gpm for steps Avon Park and Avon Park/Suwanee tests) with each step taking 4 hours. Field measurements for pH, temperature, Sp. Conductance and Dissolved Oxygen (DO) will be monitored. Testing also includes 5-day Constant-Rate Tests at 500 gpm (1,000 gpm for steps Avon Park and Avon Park/Suwanee tests). Water disposal of test is responsibility of Contractor but could get directed to Authority’s Reservoir. Monitoring during all testing will be based on the results at each of the stages above, the expedited testing strategy allows the flexibility to ultimately establish the well as one of the following options:

- » Suwanee Production Well: By back-plugging the pilot bore between 950 feet and 1,350 feet, and then reaming the well between 550 feet and 950 feet to 20 inches
- » Avon Park Production Well: By reaming 20” diameter between 550 and 1,100 ft and reaming 16” in diameter between 1,100 feet and 1,350 feet. Then installing a 16” telescoping PVC casing and grouted in place to a depth of 1,100 feet.

  - » Suwanee/Avon Production Well: By reaming 20" diameter between 550 feet and 1,350 feet.

Well Drilling Geophysical Logging and records:

- X-Y Caliper (XYC).
- Natural Gamma Ray (NGR).
- Dual-Induction (DIL), Laterolog, and Spontaneous Potential (SP).
- Borehole Compensated Sonic Log with Variable Density Display (BHC/VDL).
- Fluid Resistivity (static and dynamic).
- Flowmeter (FM) (static and dynamic).
- Temperature (Static and Dynamic).
- Color Video Survey with Side-Looking Rotating Camera.

SWFWMD REGULATORY BACKGROUND

The PRF is located within SWFWMD's Southern Water Use Caution Area (SWUCA). The SWUCA was designated by the SWFWMD in 1992 to address declining UFA levels primarily due to groundwater withdrawals. The area encompasses approximately 5,100 square miles, including all of DeSoto, Hardee, Manatee and Sarasota counties, and parts of Charlotte, Highlands, Hillsborough and Polk counties.

There are three SWUCA's areas of concern:

1. Reduced flows in the Upper Peace River.
2. Reduced lake levels in the Ridge Lakes area (extends roughly 90 miles along the center of the state in Polk and Highlands counties).
3. Rate of saltwater intrusion into the UFA along the coast, especially in the Most Impacted Area (MIA), an area encompassing about 708 square miles located along the coast of southern Hillsborough, Manatee, and northwestern Sarasota counties.

In response to the concerns listed above, SWFWMD adopted the SWUCA Recovery Strategy in 2006 and is implementing the strategy over a 20-year period. The four principal goals of the Recovery Strategy to achieve by 2025 include:

1. Achieve minimum flows in the upper Peace River.
2. Achieve minimum lake levels in lakes along the Lake Wales Ridge.
3. Achieve saltwater intrusion minimum aquifer level.
4. Ensure water supply needs are met for existing and projected reasonable and beneficial uses.

To ensure the success of the Recovery Strategy, the SWFWMD implemented Minimum Flows and Levels (MFLs) in the SWUCA. An MFL is the limit at which further withdrawals would be significantly harmful to the water resources or ecology. SWFWMD continues to evaluate water bodies within the SWUCA and adopt additional MFLs as needed. The Recovery Strategy also introduced the concept of a "Net Benefit" to provide additional flexibility in situations where existing rules, coupled with water supply planning and water resource development projects, are not adequate to achieve the Recovery Strategy goals. The Recovery Strategy also relies upon cumulative impact analyses in the form of groundwater flow modeling to evaluate changes in permitted and used groundwater quantities in and around the MIA. The MIA is an area of greater concern that includes portions of Hillsborough, Manatee and Sarasota Counties where salt-water intrusion has historically occurred within the SWUCA. The Salt-Water Intrusion Minimum Aquifer Level (SWIMAL) was developed in 2002 to slow the rate of salt-water intrusion in the MIA. No new impacts to the MIA are currently allowed under SWFWMD Rule.

Water Use Permitting Considerations for a Brackish Wellfield at the PRF

The PRF is approximately 12 miles southwest of the MIA which is associated with the SWIMAL as previously discussed. In accordance with SWFWMD Rules, all WUP applications will be evaluated for their potential impact on the SWIMAL utilizing a cumulative impact assessment (i.e., groundwater flow modeling) based upon the best available information. All three of PWR/RESPEC's key personnel are former SWFWMD Water Use Permit Evaluators and have decades of experience with Water Use Permitting as well as the impact analyses necessary to successfully permit a redistribution of existing permitted quantities or additional groundwater quantities if required. All three key personnel were permit evaluators when DWRM Version 1 first became available in 2004. Therefore, PWR/RESPEC personnel have over 19 years of experience using the DWRM to authorize groundwater quantities within the SWFWMD.

WELLFIELD APPROACH

Wellfield Design and Management

Our team proposes a cooperative approach with Authority staff members to evaluate components of the well design, well collection system and overall management strategy of the wellfield. Leaning on past experiences, our team can create a decision matrix with the different components of a wellfield design highlighting advantages and disadvantages of industry available options to best suit the Authority's goal.

Among the wellfield components that should be evaluated or discussed include well casing and well header materials, raw water main material and construction method, well head configuration, pump selection, instrumentation and SCADA reporting, power source and backup power, security requirements and wellfield management strategy.

Due to the Avon Park formation having a higher TDS concentration, the wellfield components should be considered against the expected brackish water quality rather than components used in surficial or freshwater aquifers. Typically, well configurations for brackish supply include stainless steel well casing for pipe headers and plastic materials (PVC or HDPE) for raw water mains which optimizes the expected serviceable life of these system components.

The example image included shows construction of a brackish well, with stainless steel casing and header, and HDPE raw water main. This example also shows flush ports and several taps for instrumentation devices in the well header assembly to facilitate operation and maintenance.

Among the proposed remote telemetry capabilities at each well site, our team recommends as a minimum to continuously measure flow, conductivity, and pressure; all three of which are typically required to gauge the condition of the well and help adjust pretreatment or treatment processes. Conductivity is typically used as a surrogate measurement for TDS and since the Avon Park production wells may produce raw water with increasing TDS over time, the recommended instrumentation will be critical to successful management and operation of the wellfield. Optional instrumentation at the well sites could include online turbidity measurement and quick ports to ease sampling for routine water quality parameters such as SDI and other contaminants such as iron, manganese, sulfates, etc. The recorded instrumentation will be transmitted via SCADA to the plant operations staff. As an added value, our team can advise the Authority on optimizing the management of the wellfield through the use of software, such as the Blue Plan-it, which records and analyzes real time data between the wellfield and the treatment process.



Our team brings extensive experience with brackish wellfield development and understands critical features - stainless steel casing and header, flush ports, and instrumentation taps.

The expected water quality of the IAS aquifer has projected TDS concentration much lower than the Avon Park formation (APP). Having freshwater characteristics, the construction of production wells for this aquifer should allow our team and the Authority to evaluate different constructions materials, should they provide an economic or supply demand advantage over the materials used for the brackish aquifer. For example, the use of ductile iron pipe for the well header assembly, would typically be considered viable for freshwater wells with lower TDS concentrations.

Preliminary pump equipment considerations are listed below:

Aquifer	ISA	APP
# of Wells	6	4
Depth (ft)	300 - 400	1,250
TDS (mg/L)	500 - 600	4,000 - 6,000
Capacity (gdp)	300,000	1,800,000
Pumps	VSTP	VTP



The TDS range for both aquifers would benefit from 316 stainless steel pump components for optimal performance. Design features such as pump screens and check valves will also be evaluated for effective performance. Operation of these wells may require variable frequency drives or continuous operation depending on the quantity of raw water produced at the proposed wellfields.

Medium voltage power is expected to be sufficient for well operation with step-down transformers required at each well site. Emergency power from the PRF would eliminate the need for portable or individual site generator.

The design of the well raw water mains will include common design elements such as a hydraulic capacity to prevent high velocities in the mains; surge and vacuum protection devices (particular important in plastic pipes) which will be determined during hydraulic and transient analysis; locating wires to locate the mains in the future, the use of long radius bends to avoid erosion at fittings.

A preliminary layout of independent well collection mains is shown below. The layout follows the conceptual analysis of the Reverse Osmosis (RO) Facilities in 2013 which outlined a post treatment blending strategy where the relatively fresh IAS water would bypass the reverse osmosis treatment process and blend with the Avon Park permeate, or post reverse osmosis treated water. Assuming water quality testing validates the expected water quality at the IAS aquifer and APP, the wellfield raw water mains for each aquifer should remain independent of each other through pretreatment (sand separators). This allows each well field to operate according to their different pressure requirements and leads each water source to its respective treatment processes, maximizing treatment and well pumping efficiency. If water quality parameters deteriorate, these independent raw water mains will provide with the flexibility to blend upstream of RO treatment for upstream blending to manage the effluent water quality, as appropriate. This design may also prove beneficial as upstream blending may ease additional treatment systems into the overall process should a future contaminant, such as PFAS, require removal prior to finished water distribution.

CREATIVITY AND INNOVATION PROVIDES NOW AND IN THE FUTURE

Applying a holistic perspective including all of the aspects and assets of the PRF is important in providing added value in terms of best use of existing facilities and reliability and flexibility of the system. For example, the existing ASR system contains a large bubble with a gradient from fresh to brackish. Proper planning of the new brackish wellfield can allow for a convenient connection to the recovered ASR water. Multiple potential benefits and uses of introducing and blending recovered ASR water with the brackish wellfield water are apparent, including:

1. **Added flexibility and reliability to** address future increase in the brackish wellfield water TDS and allow treatment with modification to the water treatment system.
2. Treatment of recovered ASR water to address future regulated contaminants such as PFAS.
3. Treatment of recovered ASR water to address TDS and allow greater ASR recovery.

Planning for the potential interconnect of recovered ASR water has many benefits and adds no significant additional project cost and allows for cost-effective implementation during initial design and construction or at a future date. However, if the potential interconnect is not considered and planned, the implementation cost could be prohibitive.

The Carollo team will work with you to find opportunities for holistic, creative, added-value solutions throughout the project.

RO is non-proprietary, widely applied, suitable for managing changing water quality, and provides a high level of dissolved ion removal. However, if the Authority desires, and after supplemental data is available from any additional aquifer performance testing, we will perform a thorough yet quick cost benefit analysis of the alternative technologies before embarking on the predesign.

TREATMENT APPROACH

This section provides our understanding of the scope of work for the new brackish water treatment facility. At the same time, it presents our ideas for designing a robust and flexible treatment system that meets your goals to provide flexibility to withstand projected changes in raw water salinity and ensure long term sustainability, resiliency, and reliability.

Objective

The treatment facility will be designed to treat a combination of Avon Park wellfield and IAS wellfield raw waters (and/or potentially ASR well water) using the RO process, along with addition of ancillary processes/equipment as needed to support the main treatment process.

The 2013 Conceptual Design Report (CDR) proposed RO as the selected treatment technology. Given the expected TDS and chloride levels of the supply sources (both initial and future), and the low levels of silica, the RO selection is consistent with the advantages that it offers in this project over other competing technologies such as EDR or NF.

The current WUP allows withdrawal from up to four (4) Avon Park wells and up to six (6) IAS wells for a total authorized annual average and peak month groundwater quantity of 9.0-mgd. There is potential to increase the authorized raw water withdrawal quantities under an additional WUP permit modification. Therefore, the Authority is considering possible revision/expansion to the build-out treatment capacity which may be pursued as part of the current Project or in the future. This would also imply revision/expansion to the raw water wellfields, concentrate disposal, and associated conveyance.

Overall Design Approach

Our overall approach to the project is based around the following specific elements that we have identified for this project. We will vet these key elements with you during the project kickoff meeting and expand them as needed.

- Design treatment site plan providing flexibility for possible revision/expansion of capacity.
- Cost-effective and energy efficient RO design including ease of O&M and operator health and safety.
- Treatment basis established via rigorous long term WQ analysis and projection with flexibility to accommodate future changes in water quality.
- Raw water blending and bypass analysis, and finished water blending and compatibility analysis.
- MOPO and construction sequencing to accommodate tie-ins and integration with existing facilities.

Particularly, with many similar elements, our recent experiences with the designs of the 15-mgd PRWC Southeast RO WPF and 10-mgd West Polk RO WPF provide a strong study of parallels with your project, which we will heavily leverage in this project to provide both cost and schedule benefits. As shown in the matrix on the next page.

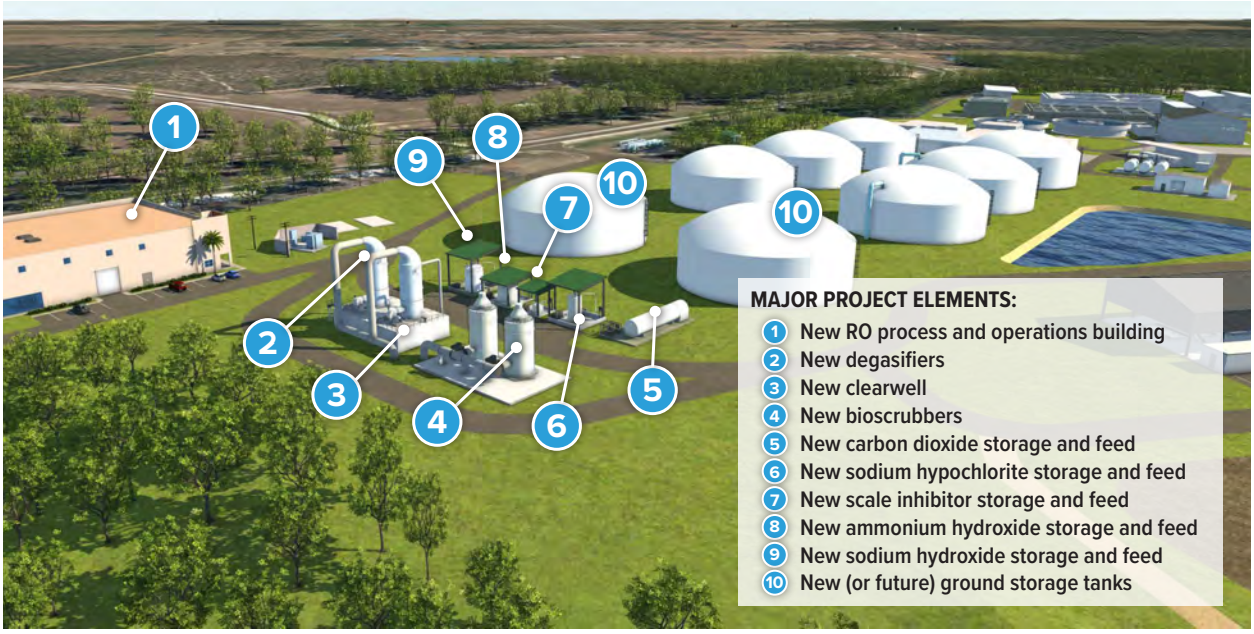
Project Element	Peace River Brackish Groundwater Facility	PRWC Southeast RO WPF	PRWC West Polk RO
Regional Agency and Facility	✓	✓	✓
Project Elements: wellfield & transmission, RO WTP, injection wells & transmission	✓	✓	✓
Considerations and site planning for potential future expansion	✓	✓	✓
Finished water treatment and blending considerations	✓	✓	✓
Major unit processes: sand strainers, cartridge filters, RO trains, degasifiers, bioscrubbers, chemical storage and feed systems	✓	✓	✓
Phase 1 for 30% Design	✓	✓	✓

Leveraging similar project experiences with the recent PRWC Southeast and West Polk RO facility designs will provide both cost and schedule benefits.

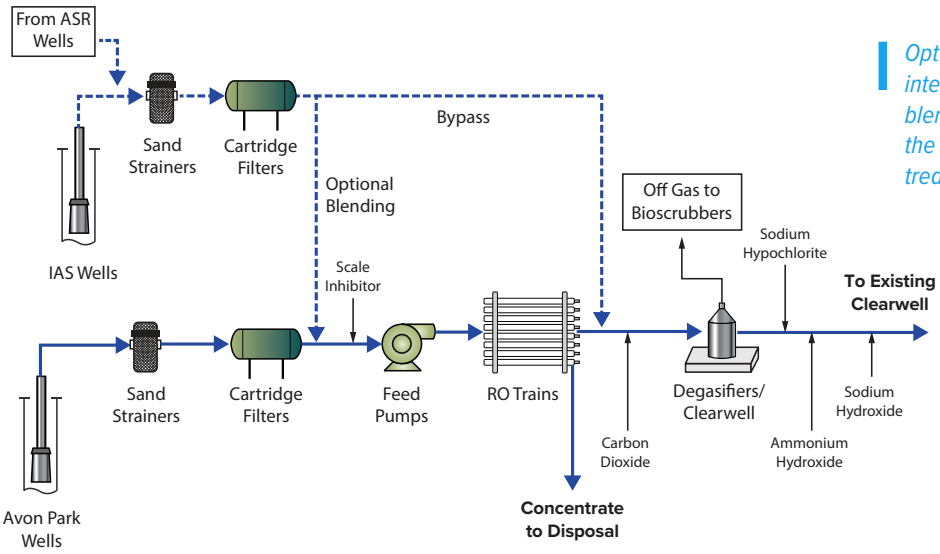
The map below shows a proposed version of the Brackish Groundwater Facility and highlights key process areas. Our conceptual layout builds on what was started in the CDR, but with enhancements that are intended to provide flexibility for potential future RO facility expansion as well as improve overall plant design and maintenance.

Raw Water Quality Data Substantiation

While certain water quality data are available on the permitted wellfields, there are some data gaps along with differences in water quality from the previously obtained data sets. Our team has experience with the data substantiation and analysis required during the test well monitoring phase that allows us to correctly communicate with the hydrogeologist to collaboratively estimate initial water quality and long-term variation to cost-effectively design a reliable treatment process.



The Carollo team will work with Authority staff to optimize the conceptual layout for potential future expansion, capital cost, and ease of O&M.



Optimizing and effectively integrating unit processes and blending/bypass flexibility results in the most reliable and cost-effective treatment system.

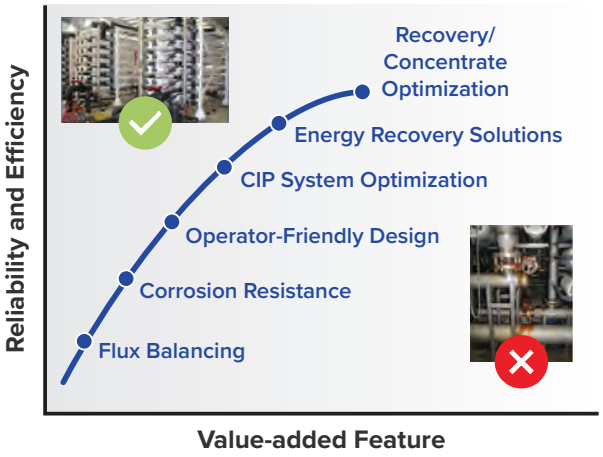
Process Flow & Raw Water Blending/ Bypass Strategy

The proposed process flow diagram above shows the major unit processes, as well as the raw water blending and/or bypass strategy to balance cost savings with operational flexibility and water quality. Per the CDR the intent was to use the IAS (mildly brackish) source as bypass water around the treatment to subsequently blend with RO permeate for water quality stability. The blend analysis in the CDR was done assuming 5-mgd treated water (4-mgd permeate and 1-mgd IAS). We will update the blend analysis to reflect the increased flows for each source in the current WUP (i.e. up to 7.2-mgd for Avon Park and up to 1.8-mgd for IAS).

We also recommend providing features accommodating potential blending of the Avon Park and IAS raw waters (before RO). This provides flexibility to manage the anticipated long-term TDS increase over time for the Avon Park wellfield, and thus defer potential RO feed pump (stage) upgrades that would otherwise be required at some point to manage higher TDS levels. Additionally, this strategy supports flexibility in managing risk and treatment for potential trace contaminant considerations. e.g., PFAS that could become a concern with a simple bypass strategy around RO. Finally, the high hardness of the IAS water (~430 mg/L as $CaCO_3$) will limit the permissible volume of simple bypass in order to provide a blend that is compatible with the hardness of the existing treated surface water, and the optimal treatment strategy may consist of a hybrid of raw water bypass and blending initially or in the future.

RO Process Design

Over the last 15 years, Carollo has completed design and/or construction of more than $1 billion worth of desalination plant infrastructure. During that time, we paid attention to what worked and what didn't in RO plants all over the country. Carollo's technical leadership in RO design enables us to include the many considerations that go into designing a reliable and energy efficient RO facility, as detailed in the graphic below.



Through our expertise accumulated over many RO projects, our team will incorporate all the key elements of an efficient and robust RO system.

Energy Efficiency

Carollo has implemented energy efficient features on many previous RO projects (including award-winning projects in Florida) that will be included in this project. Sustainability features and energy saving opportunities will be sought from the wellfield to the final blending and where appropriate, integrated into the work in an affordable manner.

Several energy efficient features will be implemented in the design:

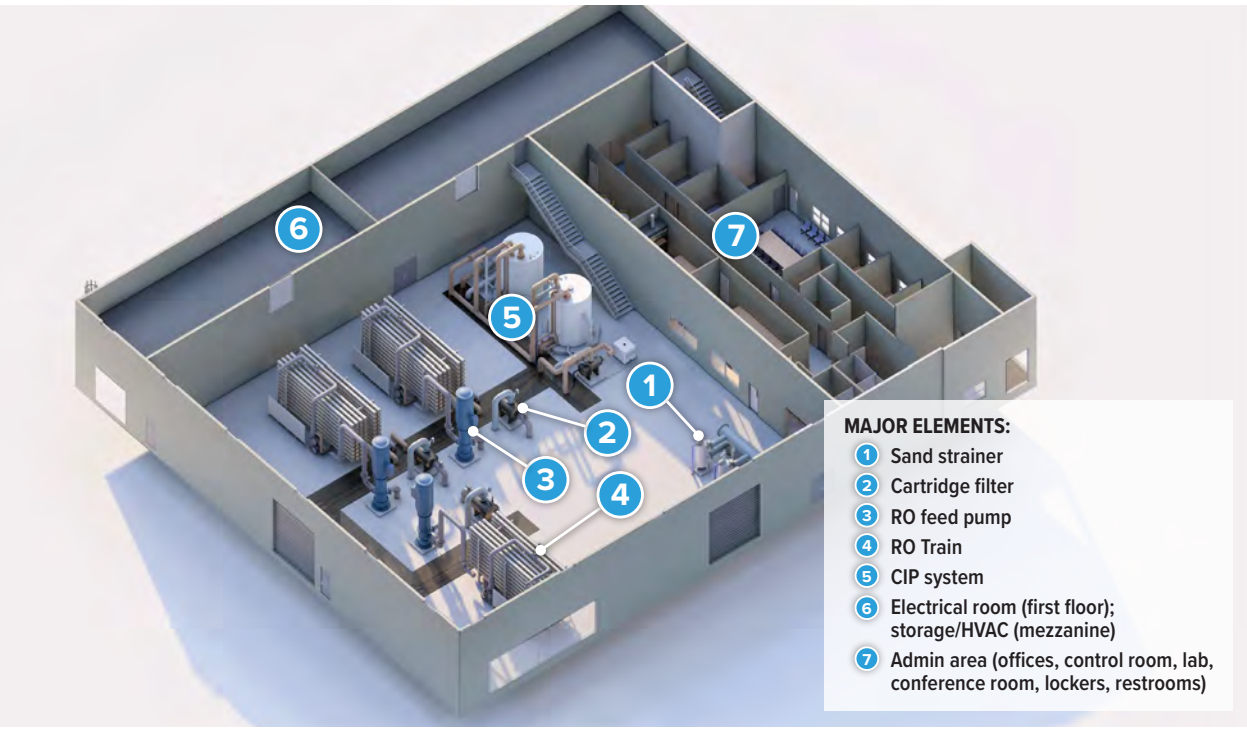
- Energy efficient membranes, including low differential pressure membrane designs.
- RO energy recovery, including turbine or isobaric technologies.
- Energy efficient hydraulic designs – using gravity where possible, low friction piping materials, and high-efficiency pumps, motors and VFDs.
- LEED standard building design features such as use of natural light, renewable energy, and water efficient landscaping.

RO Process and Operations Building

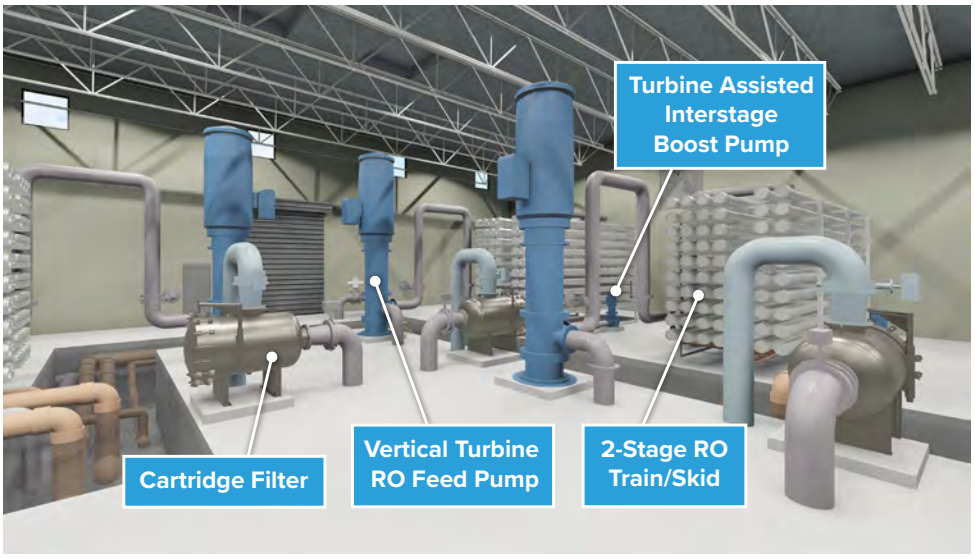
The RO process will be housed in the process and operations building as illustrated in the graphic below. The proposed layout includes consideration of a future fourth skid for potential expansion as well as possible expansion of the building (to the west) to allow additional skids. A new control room, lab, conference room, and offices have been assumed for maximum flexibility, although we understand that there is potential to share control room, lab, and offices with the existing facility and thus reduce the building footprint. The current building layout also leverages the height of the RO process area to utilize the space above the office area and electrical room for storage (e.g., cartridge filters and spare parts) and HVAC equipment.

Pretreatment

The sand strainers and cartridge filters will be separately piped to the Avon Park and IAS sources to allow raw water blending and bypass options as discussed above. The sand strainers are shown located in the process building but can optionally be located outside if desired.



We will work collaboratively with Authority staff to develop layouts that optimize building footprint, equipment access, and O&M considerations.



RO trains and supporting equipment and piping will be designed with good access to valves and instruments for ease of operations and maintenance.

Our approach will be to design the cartridge filter vessel conservatively, such that the loading rate and inlet velocities are low, and drains are large enough to allow efficient vessel maintenance.

Because of safety concerns related to the storage and handling of acid, Carollo is leading the industry in the application of no-acid desalination systems, which take advantage of recent advancements in scale inhibitor products.

RO Trains and Pumps

Three skids (each ~2.5-mgd permeate capacity) will be provided to treat up to 9.0-mgd of the blended raw water and to provide the desired finished water capacity. All valves and flow meters are installed above the grating at heights easily accessible by the operations staff. This facility will also incorporate maintenance friendly features, such as:

- Corrosion resistant fiberglass frame and grating
- Flow profiling valves on the permeate lines
- Corrosion resistant fiberglass sample panel
- In-line mounted instruments that avoid continuous draining of sample water

Each RO feed pump will be dedicated to a single RO membrane train. For maximum efficiency, they are multistage vertical turbines mounted in cans. To maintain the total system permeate flow rate, the RO feed pump will operate on a VFD.

Installing interstage booster/energy recovery turbines on the RO trains reduces the plant's energy use and improves sustainability, while providing better flux balancing between the RO stages. The turbine assisted interstage boost pump will recover pressure from the second stage concentrate and transfer the energy (typically at around 65-75 percent efficiency) to the second stage feed flow.

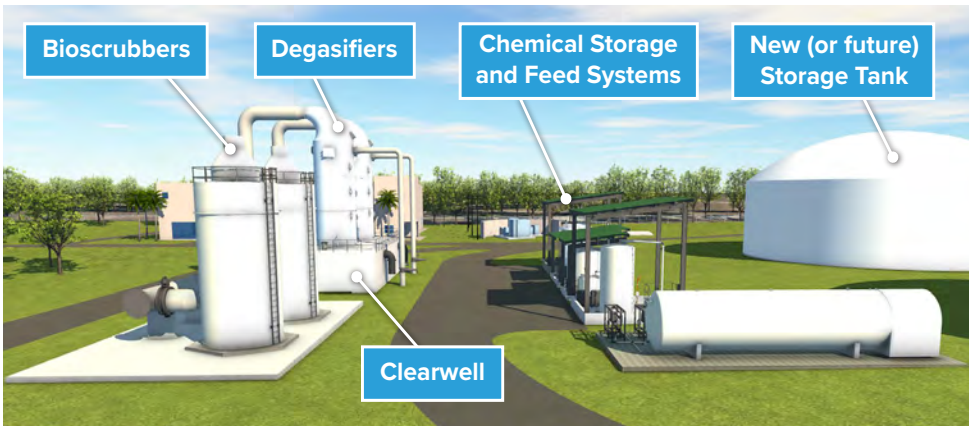
Option to Maximize Cost Effective Recovery

While designing long-term improvements, and based on the Authority's interest, our team can also look into increasing the process recovery. Our team members lead the industry in full-scale high recovery RO system designs and brine treatment facilities.

Degasifiers and Scrubbers

We propose to use carbon dioxide for pH adjustment ahead of the degasifiers. The benefits of carbon dioxide over sulfuric acid include improving safety and O&M issues as well as improving finished water quality. We have implemented carbon dioxide addition (whether new or conversion from sulfuric acid) at several RO facilities, including conversion at North Lee County project.

We understand from the CDR that the intent is to transport the RO treated water by gravity from the clearwell (under the degasifiers) to the existing clearwell at the site for finished water blending with the conventional WTP treated water. We will evaluate the hydraulics for the increased RO treated flow (since the CDR was completed assuming a lower RO capacity), to ensure that this is possible in lieu of using transfer pumps. The CT requirements and blending compatibility analysis for corrosion



Degasifiers, bioscrubbers, and chemical systems will be designed and located taking into consideration the possibility of future expansion.

indices will also be evaluated to determine the chemical doses to be injected in the RO treated water.

Carollo has experience with both biological and chemical scrubbers. In general, biological scrubbers would be preferred as recommended in the CDR.



Acid elimination at North Lee County WTP, Florida improved operator safety and saves Lee County $334,000/yr. Instead of using hazardous sulfuric acid, CO2 is injected into RO permeate to lower pH for efficient hydrogen sulfide removal and again in the clearwell to improve alkalinity of the finished water.

Chemical Storage and Feed

Carollo's approach to designing chemical systems will integrate the preferences of the operations staff and the requirements of Recommended Standards for Water Works. Chemical feed pump type and the location of pumps, valves, drains, calibration columns and showers are highly dependent on the preferences of plant operators. We will make certain that the chemical feed system design conforms to operation staff preferences and prioritizes safety, longevity, and maintainability.

Alkalinity Recovery/pH adjustment/ Corrosion Control: After degasification, treated water requires chemical conditioning to reduce the finished water corrosion potential. Treated water must be adjusted for pH and properly buffered. To accomplish this, sodium hydroxide (caustic soda) and carbon dioxide can be used to both adjust pH and add bicarbonate alkalinity.

Disinfection. Chloramines are added at the Peace River WFP as a means for providing disinfection. This will require the addition of sodium hypochlorite and ammonium hydroxide.

For chemical storage and feed, one option is to provide a separate pre-engineered metal structure for each chemical with a roof and a concrete containment wall around the area. The metering pumps and bulk storage tanks reside inside the chemical storage area, on equipment pads, with individual fill pipes directed to one side of the structure for deliveries of the chemical.

Electrical Design

The electrical design will include similar conceptual concepts per the Technical Memorandum dated August of 2013. New electrical gear including Transformer, Switchgear, MCCs and VFD's will be included in the design. The new switchgear will be designed with future expansion capabilities. The electrical design will be consistent with the Authority's standards and preferences in equipment, installation, and Operation and Maintenance.

Instrumentation and SCADA Design

The I&C design will emphasize automation and will include data collection, normalization, and trending features. The control system will be designed to be consistent with the Authority's standards and preferences to ensure continuity in protocol, software, and hardware.

INJECTION WELL APPROACH

The Carollo team combines the best source water and injection well hydrogeological talent with treatment and geochemical compatibility expertise and injection well design and permitting experience to provide confidence in rapid and efficient development of a robust injection well preliminary design.

The cornerstone of our approach to investigating and providing preliminary design and cost estimates for concentrate management and the injection well facility is to team with the best injection well hydrogeological expertise for your project. In our opinion, that is Mark McNeal and his team at ASRus. Mark brings a wealth of injection well experience and unique knowledge of the Authority's injection well issues based on his previous work with you.

Carollo has extensive experience working with Mark and his team, including several recent similar Southwest Florida projects (City of Tampa DIW, Polk Regional DIW and water supply, and Seminole County Injection Well). In our projects with Mark and ASRus, we have helped clients with common and routine injection well systems as well as more complex and challenging systems. For example, the Polk Regional injection wells had complex subsurface injection zone geology and the concentrate-aquifer compatibility requirements were quite challenging.

However, discussions with Mark and the PWR/RESPEC team indicate that the Authority's injection wells should be fairly straight-forward. With that, another overarching element of our approach is to analyze all aspects rigorously but avoid making design and permitting of injection wells for your project more complicated (or appear to be more complicated) than it needs to be.

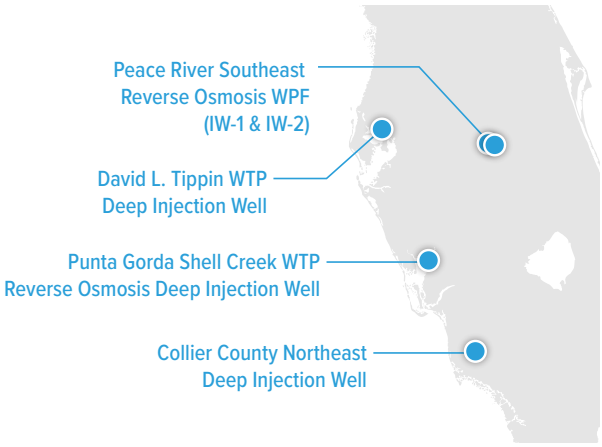
Talking with Mark, some key observations and considerations, include:

- The recommended injection zone for a Class I industrial injection well (RO concentrate) is the Lower Floridan aquifer (LFA) from approximately 2,200 feet to 3,300 feet. The Avon Park high permeability zone (APHPZ) is present at the site; however, the base of the Underground Source of Drinking Water (USDW) occurs within the APHPZ and therefore it cannot be used for Class I applications. The base of the USDW is estimated to occur at approximately 1,550 feet.
- Florida Department of Environmental Protection (FDEP) Underground Injection Control Classifies RO Concentrate disposal as Class I Industrial Injection Wells – which have some regulatory and construction differences from Class I municipal effluent injection wells. Carollo understands these issues and the design and permitting processes having recently permitted the new Class I Industrial Injection Wells for the Collier County Northeast Water Treatment Facilities.
- The anticipated capacity of the UFA at the site is between 1 and 2 million gallons per day (mgd) based on the exploratory well investigation conducted in 2012. Other regional LFA injection wells have had similar permeability. It is anticipated that variability in the potential permeability of the LFA throughout the site at the Peace River Facility will not be significant.
- An application for a Class I Well Construction and Testing Permit is recommended (versus a Class V Exploratory Permit). Permitting will take between 12 and 18 months under the current UIC Department. Note that this is the same approach and permit developed by Carollo and successfully obtained recently for Collier County Utilities.



ASRus brings unique knowledge and insights to the Authority's injection wells based on their 2013 exploratory well work.

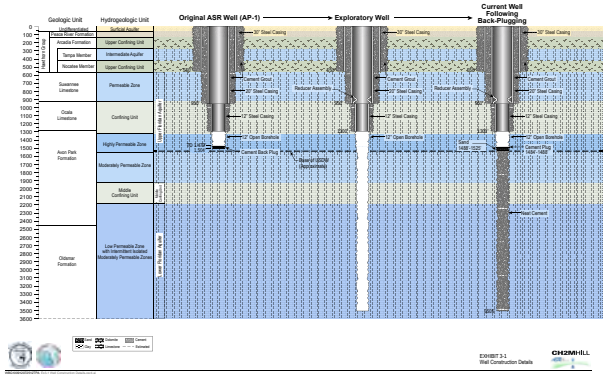
- The deep injection well drilling market continues to be volatile. Pricing is highly variable and dependent on timing of other similar projects as only a few firms can drill a Class I injection well to the depths proposed. Strategies can be employed to mitigate cost variability to some degree. The anticipated schedule to construct a single injection well and monitor well is approximately 1 year but is dependent on the firm and the schedule and efficiency of their work model. Similar LFA injection well projects have ranged from 9 months to 2 years depending on the drilling firm.
- Multiple water treatment waste streams could be considered for injection in the future if additional processes are required to meet upcoming regulations. At Collier County's Northeast Treatment Water Facility, Carollo permitted the injection wells to receive ion exchange spent regenerant as well as RO concentrate. Ion exchange is a Best Available Technology (BAT) for PFAS treatment and could also have a potential future application like the Suspended Ion Exchange (SIX) process being considered at the City of Tampa's WTP.
- The injectate for a Class I industrial injection well has no water quality requirements other than it must be characterized as non-hazardous. The permit and successful long-term operation does, however, require compatibility of the injected water and native water and geologic formation to be demonstrated.
- Carollo has successfully completed this required compatibility analysis for the recent permits for the Punta Gorda Shell Creek RO WTP and Collier Northeast WTP Injection Well permits as well as the Polk Regional injection wells.
- Considerations for well siting evaluation will include: minimizing the distance to the RO plant; distance from previous exploratory well; space for drilling operations; space to co-locate a monitor well within 150 feet; and consideration for future infrastructure. All of these considerations are well understood and demonstrated in Carollo's designs for the Collier County and Polk Regional Injection Well systems.
- Monitoring system is anticipated to be a dual-zone monitor well for each Class I well installed. The selection of the appropriate monitoring zones can be critical to the success of the system.



Carollo's recent similar DIW design and permitting experience enables us to efficiently and effectively lead the injection well aspects of this Authority project.

- Class I Industrial injection wells require casing and tubing to injection zone. The annular space between these overlapping casings can be fluid filled or filled with cement. There are advantages and disadvantages between a fluid filled annulus and cement filled annulus.
- Operational costs of an injection system include energy for injection pumps, laboratory analysis, regulatory compliance reporting, 5-year Mechanical Integrity Test (MIT) demonstrations, 5-year permit renewals, and miscellaneous equipment maintenance and replacement.

Above ground aspects of the injection well system are also important. Accessibility and features simplifying MIT and routine sampling and maintenance as well as corrosion and wind-blown hazard resistant materials and designs provide for a reliable, operator friendly injection well system.



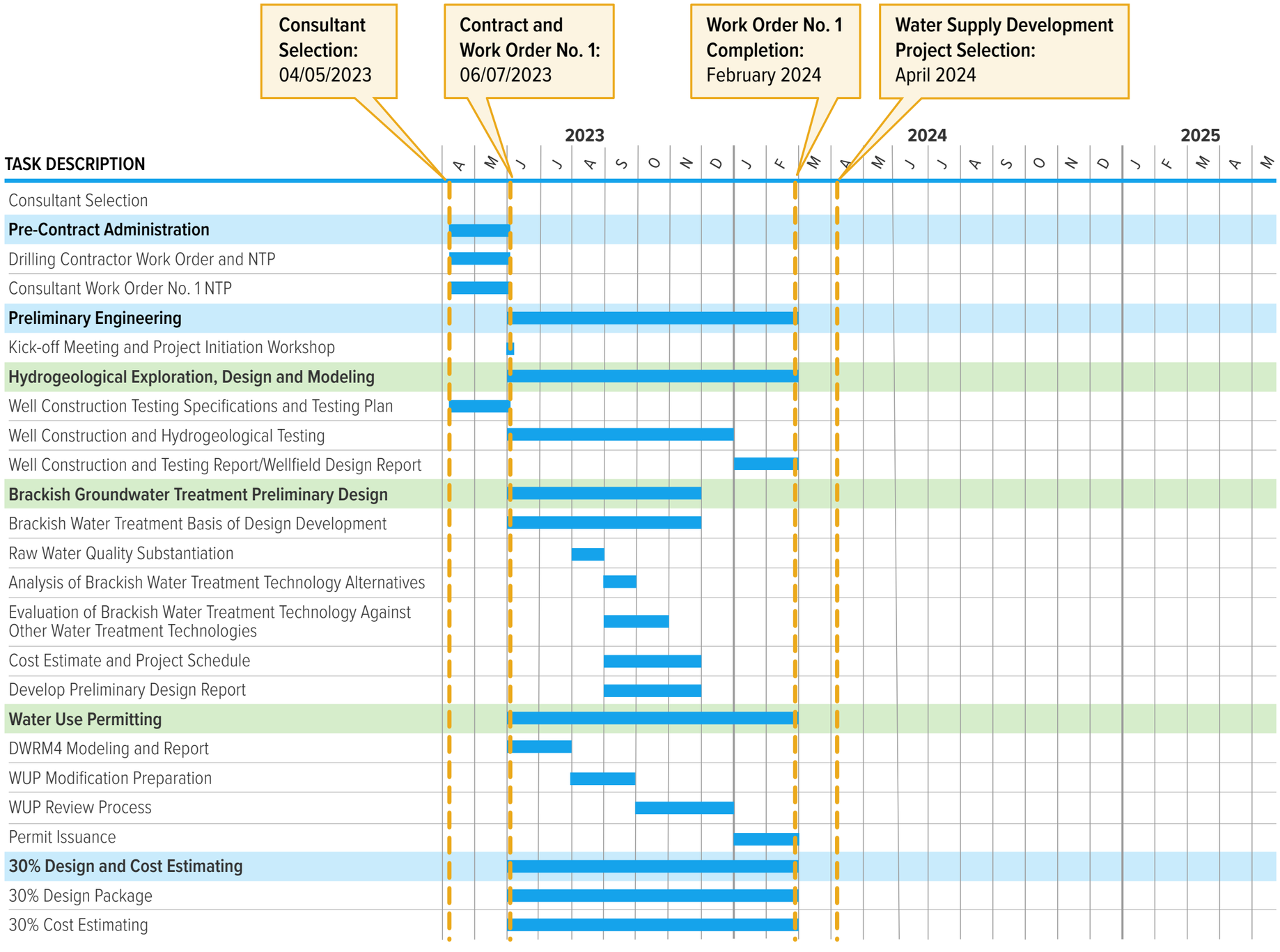
Carollo's recent design and permitting of the Collier County Northeast injection well system provides a basis for quick, efficient development of 30% design and cost estimating for the Peace River injection well system.

PROJECT SCHEDULE

Carollo understands one of the most important elements of a successful project is meeting the schedule.

Our project schedule illustrates the major activities necessary to develop a Brackish Groundwater Facility that best meets the Authority's goals.

Each project activity and task—from preliminary engineering to the development of the 30% design package and cost estimates—takes full advantage of efficiencies inherent in our integrated design approach. This results in a schedule with accurate task durations to ensure the project is completed by the Authority's April 2024 Board Meeting.



Well Construction Contractor Approach





5 Well Construction Contractor Approach

WELL CONSTRUCTION CONTRACTOR APPROACH

The need for a qualified contractor to complete the proposed well construction and testing plan is imperative to the success of his project. Therefore, retaining a qualified Well Contractor is considered a critical path item. Well Contractors are extremely busy with considerable project back-log. However, the Carollo team maintains an exceptional reputation and relationship with many qualified well contractors, and we have negotiated Master Service Agreements with two highly qualified drillers who are currently on the Authority's list of drillers – Layne and Schultes in order to meet the Authority's schedule.

Expedited Driller Engagement

The need for a qualified contractor to complete the well construction and testing plan proposed in this approach is imperative to the success of his project. Therefore, retaining a qualified well contractor with the ability to mobilize to the testing site as quickly as possible is considered a critical path item.

Whereas a typical well contractor bidding process may include up 2-3 months for bid package preparation, bid solicitation and well contractor selection, we propose an alternate approach where the well contractor contracts directly with Carollo. Therefore, we have contacted three highly-qualified well drilling contractors to join our team and have negotiated a Master Service Agreements (MSAs) with two of them – Schultes and Layne.

Having an MSA in place with these drillers allows us to issue task order(s) to expedite testing efforts to meet the Authority's schedule. In addition, having multiple drillers under an MSA provides the greatest flexibility to meet the Authority's schedule based on contractor availability.

Both Schultes and Layne are on the Authority's current library of well drilling contractors, and we have great relationships and extensive experience with both. We are developing the preliminary drilling work order and test plan and will refine and finalize that alongside Authority staff as we negotiate the project contract.

The third well contractor on our team is Youngquist Brothers. They specialize in deeper Underground Injection Control (UIC) well drilling, but are qualified and willing to drill exploratory wells for the project which provides additional flexibility to meet the Authority's schedule. However, it is important to note that Youngquist will also participate as technical experts providing input on injection design and cost estimates.



Required Forms

6 Required Forms

Key Personnel Chart

Signed Sworn Statement, Public Entity Crimes

E-verify and Required Evidence

Reference Form 1 - North Lee County

Reference Form 2 - Polk Regional Water Cooperative

Reference Form 3 - Collier County

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BRACKISH GROUND WATER FACILITY PROJECT SOQ
KEY PERSONNEL CHART

Key Personnel	Key Staff Role on Design-Build Team	Employer	Years of Experience	Assigned Office City/State	Polk Regional SEWTP	Polk Regional West Polk WTP	North Lee County WTP (10-mgd)	North Lee County WTP (15-mgd expansion)	Babcock Ranch WTP	Clearwater RO WTP	Collier County NEWTP	PRMRWSA Brackish Wellfield WUP	City of Punta Gorda Brackish Wellfield Production Well No. 4 Testing and Evaluation
Sandeep Sethi	Project Manager	Carollo	32	Sarasota, FL	✓	✓				✓	✓		
Bob Cushing	Project Director	Carollo	39	Sarasota, FL	✓	✓	✓	✓	✓	✓	✓		
Jennifer Nyfennegger	Design Manager - Water Treatment Plant	Carollo	20	Sarasota, FL			✓	✓	✓	✓	✓		
Brandon Yallaly	Injection Wells/Fluid Compatibility- Water Treatment Plant	Carollo	26	Boise, ID	✓	✓				✓			
David Brown	Principal Hydrogeologist	PWR/RESPEC	40	Sarasota, FL								✓	
Joe Haber	Field Testing Lead and Permitting - Test/Production Wells	PWR/RESPEC	23	Tampa, FL								✓	✓
Peter Larkin	Permitting - Injection Wells	ASRus	23	Tampa, FL									
Mark McNeal	Injection Wells/Hydrogeological	ASRus	38	Tampa, FL	✓	✓							
Vinnie Hart	Cost Estimating/Constructability	Carollo	31	Tampa, FL	✓	✓							
Seema Chavan	Funding	Carollo	30	Walnut Creek, CA	✓	✓							
Minur Al-Suleh	Site/Civil Engineering	Carollo	23	Sarasota, FL	✓	✓							
Rich Warner	Structural	Carollo	26	Tampa, FL	✓	✓	✓	✓	✓		✓		
Chad Green	HVAC	Carollo	14	Dallas, TX	✓	✓	✓	✓	✓		✓		
Tom Seacord	Technical Advisor/QA&QC	Carollo	27	Boise, ID			✓	✓	✓				
Alex Stojanovic	EI&C/SCADA	ADS Engineering	22	Pompano Beach, FL			✓	✓	✓		✓		
Alan Anderson	Architectural	CA[3]	38	Sarasota, FL			✓	✓			✓		
Kyle Ward	Project Engineer - Water Treatment Plant	Carollo	8	Sarasota, FL			✓	✓	✓				
Brian Graham	Operations Liaison	Carollo	37	Orlando, FL			✓	✓	✓				
Dharmin Desai	Permitting	Carollo	19	Sarasota, FL			✓	✓	✓		✓		
Reference Project was completed for the Authority												✓	

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by Robert Cushing, PhD, PE, Senior Vice President
(Print individual's name and title)

for Carollo Engineers, Inc.
(Print name of entity submitting sworn statement)

whose business address is 301 North Cattlemen Road, Suite 302, Sarasota, FL 34232

and (if applicable) its Federal Employer Identification Number (FEIN) is 86-0899222
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____).

2. I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

   a) A predecessor or successor of a person convicted of a public entity crime; OR

   b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

   X Neither the entity submitting this sworn statement, nor any of its officers, directors, executives,

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

(Signature) 2/14/2023 (Date)

STATE OF Florida

COUNTY OF Sarasota

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 14th day of February, 2023 by Robert Cushing as Senior Vice President of Carollo Engineers Inc, a Delaware company organized under the laws of the State of Florida, on behalf of the company, who is personally known to me or has produced _____ as identification.

MICHELLE RYAN
Notary Public - State of Florida
Commission # HH 334778
My Comm. Expires Dec 11, 2026

Michelle Ryan
Notary Public

Michelle Ryan
Name typed, printed or stamped

My Commission Expires: 12/11/26

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Consultant shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Consultant employees hired on and after January 1, 2021. Additionally, Consultant shall require all subconsultants performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Consultant must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement

Affidavit

I hereby certify that Carollo Engineers, Inc. (Contract holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of Carollo Engineers, Inc. (Contract holder) proof of registration in the E-Verify system is attached to this Affidavit.

2/14/2023

Signature Date

Robert Cushing, PhD, PE

Print Name

STATE OF Florida

COUNTY OF Sarasota

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 14th day of February, 2023 by Robert Cushing, SVP (name of officer or agent, title of officer or agent) of Carollo Engineers Inc. (name of Consultant company acknowledging), a DE (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ (type of identification) as identification.

Michelle Ryan

Notary Public

MICHELLE RYAN
Notary Public - State of Florida
Commission # HH 334778
My Comm. Expires Dec 11, 2026

Michelle Ryan

Name typed, printed or stamped

My Commission Expires: 12/11/26

Company ID Number:40635 Client Company ID Number:1491821

THE E-VERIFY

MEMORANDUM OF UNDERSTANDING

FOR EMPLOYERS USING A WEB SERVICES E-VERIFY EMPLOYER AGENT

ARTICLE I

PURPOSE AND AUTHORITY

The parties to this agreement are the Department of Homeland Security (DHS), the Carollo Engineers, Inc. (Employer), and the Web Services E-Verify Employer Agent. The purpose of this agreement is to set forth terms and conditions which the Employer and the Web Services E-Verify Employer Agent will follow while participating in E-Verify.

E-Verify is a program that electronically confirms an employee's eligibility to work in the United States after completion of Form I-9, Employment Eligibility Verification (Form I-9). This Memorandum of Understanding (MOU) explains certain features of the E-Verify program and describes specific responsibilities of the Employer, the E-Verify Employer Agent, the Social Security Administration (SSA), and DHS.

References in this MOU to the Employer include the Web Services E-Verify Employer Agent when acting on behalf of the Employer.

For purposes of this MOU, the E-Verify browser refers to the website that provides direct access to the E-Verify system: https://e-verify.uscis.gov/emp. You may access E-Verify directly free of charge via the E-Verify browser.

Authority for the E-Verify program is found in Title IV, Subtitle A, of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA), Pub. L. 104-208, 110 Stat. 3009, as amended (8 U.S.C. Section 1324a note). The Federal Acquisition Regulation (FAR) Subpart 22.18, "Employment Eligibility Verification" and Executive Order 12989, as amended, provide authority for Federal contractors and subcontractors (Federal contractor) to use E-Verify to verify the employment eligibility of certain employees working on Federal contracts.

ARTICLE II

RESPONSIBILITIES

A. RESPONSIBILITIES OF THE EMPLOYER

1. For purposes of this MOU, references to the Employer include the Web Services E-Verify Employer Agent when acting on behalf of the Employer.
2. By enrolling in E-Verify and signing the applicable MOU, the Employer asserts that it is a legitimate company which intends to use E-Verify for legitimate purposes only and in accordance with the laws, regulations and DHS policies and procedures relating to the use of E-Verify.
3. The Employer agrees to display the following notices supplied by DHS (though the Web Services E-Verify Employer Agent) in a prominent place that is clearly visible to prospective employees and all employees who are to be verified through the system:
    A. Notice of E-Verify Participation
    B. Notice of Right to Work
4. The Employer agrees to provide to the SSA and DHS the names, titles, addresses, and telephone numbers of the Employer representatives to be contacted about E-Verify. The Employer also agrees to keep such information current by providing updated information to SSA and DHS whenever the representatives' contact information changes.
5. The Employer agrees to become familiar with and comply with the most recent version of theE-Verify User Manual. The Employer will obtain the E-Verify User Manual from the Web ServicesE-Verify Employer Agent, and will be notified by the Web Services E-Verify Employer Agent when a new version of the E-Verify User Manual becomes available.
6. The Employer agrees to comply with current Form I-9 procedures, with two exceptions:
    A. If an employee presents a "List B" identity document, the Employer agrees to only accept "List B" documents that contain a photo. (List B documents identified in 8 C.F.R. 274a.2(b)(1)(B)) can be

presented during the Form I-9 process to establish identity.) If an employee objects to the photo requirement for religious reasons, the Employer should contact E-Verify at 888-464-4218.

B. If an employee presents a DHS Form I-551 (Permanent Resident Card), Form I-766 (Employment Authorization Document), or U.S. Passport or Passport Card to complete Form I-9, the Employer agrees to make a photocopy of the document and to retain the photocopy with the employee's Form I-9. The Employer will use the photocopy to verify the photo and to assist DHS with its review of photo mismatches that employees contest. DHS may in the future designate other documents that activate the photo screening tool.

Note: Subject only to the exceptions noted previously in this paragraph, employees still retain the right to present any List A, or List B and List C, document(s) to complete the Form I-9.

7. The Employer agrees to record the case verification number on the employee's Form I-9 or to print the screen containing the case verification number and attach it to the employee's Form I-9.
8. The Employer agrees that, although it participates in E-Verify, the Employer has a responsibility to complete, retain, and make available for inspection Forms I-9 that relate to its employees, or from other requirements of applicable regulations or laws, including the obligation to comply with the antidiscrimination requirements of section 274B of the INA with respect to Form I-9 procedures.
   A. The following modified requirements are the only exceptions to an Employer's obligation to not employ unauthorized workers and comply with the anti-discrimination provision of the INA: (1) List B identity documents must have photos, as described in paragraph 6 above; (2) When an Employer confirms the identity and employment eligibility of newly hired employee using E-Verify procedures, the Employer establishes a rebuttable presumption that it has not violated section 274A(a)(1)(A) of the Immigration and Nationality Act (INA) with respect to the hiring of that employee; (3) If the Employer receives a final nonconfirmation for an employee, but continues to employ that person, the Employer must notify DHS and the Employer is subject to a civil money penalty between $550 and $1,100 for each failure to notify DHS of continued employment following a final nonconfirmation; (4) If the Employer continues to employ an employee after receiving a final nonconfirmation, then the Employer is subject to a rebuttable presumption that it has knowingly employed an unauthorized alien in violation of section 274A(a)(1)(A); and (5) no E-Verify participant is civilly or criminally liable under any law for any action taken in good faith based on information provided through the E-Verify.
   B. DHS reserves the right to conduct Form I-9 compliance inspections, as well as any other enforcement or compliance activity authorized by law, including site visits, to ensure proper use of E-Verify.
9. The Employer is strictly prohibited from creating an E-Verify case before the employee has been hired, meaning that a firm offer of employment was extended and accepted and Form I-9 was completed. The Employer agrees to create an E-Verify case for new employees within three Employer business days after each employee has been hired (after both Sections 1 and 2 of Form I-9 have been completed), and to complete as many steps of the E-Verify process as are necessary according to the E-Verify User Manual. If E-Verify is temporarily unavailable, the three-day time period will be extended until it is again operational in order to accommodate the Employer's attempting, in good faith, to make inquiries during the period of unavailability.
10. The Employer agrees not to use E-Verify for pre-employment screening of job applicants, in support of any unlawful employment practice, or for any other use that this MOU or the E-Verify User Manual does not authorize.
11. The Employer must use E-Verify (through its Web Services E-Verify Employer Agent) for all new employees. The Employer will not verify selectively and will not verify employees hired before the effective date of this MOU. Employers who are Federal contractors may qualify for exceptions to this requirement as described in Article II.B of this MOU.
12. The Employer agrees to follow appropriate procedures (see Article III below) regarding tentative nonconfirmations. The Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Employer agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Employer agrees to provide written referral instructions to employees and instruct affected employees to bring the English copy of the letter to the SSA. The Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending. Further, when employees contest a tentative nonconfirmation based upon a photo mismatch, the Employer must take additional steps (see Article III.B below) to contact DHS with information necessary to resolve the challenge.
13. The Employer agrees not to take any adverse action against an employee based upon the employee's



Company ID Number:40635 Client Company ID Number:1491821

perceived employment eligibility status while SSA or DHS is processing the verification request unless the Employer obtains knowledge (as defined in 8 C.F.R. Section 274a.1(l)) that the employee is not work authorized. The Employer understands that an initial inability of the SSA or DHS automated verification system to verify work authorization, a tentative nonconfirmation, a case in continuance (indicating the need for additional time for the government to resolve a case), or the finding of a photo mismatch, does not establish, and should not be interpreted as, evidence that the employee is not work authorized. In any of such cases, the employee must be provided a full and fair opportunity to contest the finding, and if he or she does so, the employee may not be terminated or suffer any adverse employment consequences based upon the employee's perceived employment eligibility status (including denying, reducing, or extending work hours, delaying or preventing training, requiring an employee to work in poorer conditions, withholding pay, refusing to assign the employee to a Federal contract or other assignment, or otherwise assuming that he or she is unauthorized to work) until and unless secondary verification by SSA or DHS has been completed and a final nonconfirmation has been issued. If the employee does not choose to contest a tentative nonconfirmation or a photo mismatch or if a secondary verification is completed and a final nonconfirmation is issued, then the Employer can find the employee is not work authorized and terminate the employee's employment. Employers or employees with questions about a final nonconfirmation may call E-Verify at 1-888-464-4218 (customer service) or 1-888-897-7781 (worker hotline).

14. The Employer agrees to comply with Title VII of the Civil Rights Act of 1964 and section 274B of the INA as applicable by not discriminating unlawfully against any individual in hiring, firing, employment eligibility verification, or recruitment or referral practices because of his or her national origin or citizenship status, or by committing discriminatory documentary practices. The Employer understands that such illegal practices can include selective verification or use of E-Verify except as provided in part D below, or discharging or refusing to hire employees because they appear or sound "foreign" or have received tentative nonconfirmations. The Employer further understands that any violation of the immigration-related unfair employment practices provisions in section 274B of the INA could subject the Employer to civil penalties, back pay awards, and other sanctions, and violations of Title VII could subject the Employer to back pay awards, compensatory and punitive damages. Violations of either section 274B of the INA or Title VII may also lead to the termination of its participation in E-Verify. If the Employer has any questions relating to the anti-discrimination provision, it should contact OSC at 1-800-255-8155 or 1-800-237-2515 (TDD).
15. The Employer agrees that it will use the information it receives from E-Verify (through its Web Services E-Verify Employer Agent) only to confirm the employment eligibility of employees as authorized by this MOU. The Employer agrees that it will safeguard this information, and means of access to it (such as Personal Identification Numbers and passwords), to ensure that it is not used for any other purpose and as necessary to protect its confidentiality, including ensuring that it is not disseminated to any person other than employees of the Employer who are authorized to perform the Employer's responsibilities under this MOU except for such dissemination as may be authorized in advance by SSA or DHS for legitimate purposes.
16. The Employer agrees to notify DHS immediately in the event of a breach of personal information. Breaches are defined as loss of control or unauthorized access to E-Verify personal data. All suspected or confirmed breaches should be reported by calling 1-888-464-4218 or via email at E-Verify@dhs.gov. Please use "Privacy Incident - Password" in the subject line of your email when sending a breach report to E-Verify.
17. The Employer acknowledges that the information it receives from SSA through its Web ServicesE-Verify Employer Agent is governed by the Privacy Act (5 U.S.C. Section 552a(i)(1) and (3)) and the Social Security Act (42 U.S.C. 1306(a)). Any person who obtains this information under false pretenses or uses it for any purpose other than as provided for in this MOU may be subject to criminal penalties.
18. The Employer agrees to cooperate with DHS and SSA in their compliance monitoring and evaluation of E-Verify, which includes permitting DHS, SSA, their contractors and other agents, upon reasonable notice, to review Forms I-9 and other employment records and to interview it and its employees regarding the Employer's use of E-Verify, and to respond in a prompt and accurate manner to DHS requests for information relating to their participation in E-Verify.
19. The Employer shall not make any false or unauthorized claims or references about its participation in E-Verify on its website, in advertising materials, or other media. The Employer shall not describe its services as federally-approved, federally-certified, or federally-recognized, or use language with a similar intent on its website or other materials provided to the public. Entering into this MOU does not mean that E-Verify endorses or authorizes your E-Verify services and any claim to that effect is false.
20. The Employer shall not state in its website or other public documents that any language used therein has been provided or approved by DHS, USCIS or the Verification Division, without first obtaining the prior written consent of DHS.
21. The Employer agrees that E-Verify trademarks and logos may be used only under license by DHS/USCIS (see M-795 (Web)) and, other than pursuant to the specific terms of such license, may not be used in any manner that might imply that the Employer's services, products, websites, or publications are sponsored by, endorsed by, licensed by, or affiliated with DHS, USCIS, or E-Verify.

Company ID Number:40635 Client Company ID Number:1491821

22. The Employer understands that if it uses E-Verify procedures for any purpose other than as authorized by this MOU, the Employer may be subject to appropriate legal action and termination of its participation in E-Verify according to this MOU.

B. RESPONSIBILITIES OF THE WEB SERVICES E-VERIFY EMPLOYER AGENT

1. The Web Services E-Verify Employer Agent agrees to complete its Web Services interface no later than six months after the date the Web Services User signs this MOU. E-Verify considers your interface to be complete once it has been built pursuant to the Interface Control Agreement (ICA), submitted to E-Verify for testing, and approved for system access.
2. The Web Services E-Verify Employer Agent agrees to perform sufficient maintenance on the Web Services interface in accordance with the requirements listed in the ICA. These requirements include, but are not limited to, updating the Web Services interface to ensure that any updates or enhancements are incorporated no later than six months after the issuance of an ICA. Web Services E-Verify Employer Agents should be aware that this will require the investment of time and resources. Compliance with the requirements of the ICA must be carried out to the satisfaction of DHS and or its assignees.
3. The Web Services E-Verify Employer Agent agrees to provide to SSA and/or DHS the names, titles, addresses, e-mail addresses, and telephone numbers of the Web Services E-Verify Employer Agent representative who will access information, as well as ensure cooperation, communication, and coordination with E-Verify. In addition, Web Services E-Verify Employer Agents must provide to SSA and/or DHS the names, titles, addresses, and telephone numbers of its clients and their staff who will access information through E-Verify. Web Services E-Verify Employer Agents must ensure the contact information is updated with SSA and DHS whenever the points of contact change.
4. The Web Services E-Verify Employer Agent agrees to become familiar with and comply with theE-Verify User Manual and provide a copy of the most current version of the manual to the Employer so that the Employer can become familiar with and comply with E-Verify policy and procedures. The Web Services E-Verify Employer Agent agrees to obtain a revised E-Verify User Manual as it becomes available and to provide a copy of the revised version to the Employer no later than 30 days after the manual becomes available.
5. The Web Services E-Verify Employer Agent agrees that any person accessing E-Verify on its behalf is trained on the most recent E-Verify policy and procedures.
6. The Web Services E-Verify Employer Agent agrees that any of its representatives who will perform employment verification cases will complete the E-Verify Tutorial before that individual initiates any cases.
    A. The Web Services E-Verify Employer Agent agrees that all of its representatives will take the refresher tutorials initiated by E-Verify as a condition of continued use of E-Verify, including any tutorials for Federal contractors, if any of the Employers represented by the Web Services E-Verify Employer Agent is a Federal contractor.
    B. Failure to complete a refresher tutorial will prevent the Web Services E-Verify Employer Agent and Employer from continued use of E-Verify.
7. The Web Services E-Verify Employer Agent agrees to grant E-Verify access only to current employees who need E-Verify access. The Web Services E-Verify Employer Agent must promptly terminate an employee's E-Verify access if the employee is separated from the company or no longer needs access to E-Verify.
8. The Web Services E-Verify Employer Agent agrees to obtain the necessary equipment to use E- Verify as required by the E-Verify rules and regulations as modified from time to time.
9. The Web Services E-Verify Employer Agent agrees to, consistent with applicable laws, regulations, and policies, commit sufficient personnel and resources to meet the requirements of this MOU.
10. The Web Services E-Verify Employer Agent agrees to provide its clients with training on E-Verify processes, policies, and procedures. The E-Verify Employer Agent also agrees to provide its clients with ongoing E-Verify training as needed. E-Verify is not responsible for providing training to clients of E-Verify Employer Agents.
11. The Web Services E-Verify Employer Agent agrees to provide the Employer with the notices described in Article II.B.2 below.
12. The Web Services E-Verify Employer Agent agrees to create E-Verify cases for the Employer it represents in accordance with the E-Verify Manual, the E-Verify Web-Based Tutorial and all other published E-Verify rules and procedures. The Web Services E-Verify Employer Agent will createE-Verify cases using information provided by the Employer and will immediately communicate the response back to the Employer. If E-Verify is temporarily unavailable, the three-day time period will be extended until it is again operational in order to accommodate the Web Services E-Verify Employer Agent's attempting, in good faith, to make inquiries on behalf of the Employer during the period of unavailability. If, however, the Web Services interface is unavailable due to no fault of E-Verify, then the three-day time period is not extended. In such a case, the

Web Services E-Verify Employer Agent must use the E-Verify browser during the outage.

13. The Web Services E-Verify Employer Agent agrees to ensure that all notices, referral letters and any other materials otherwise including instructions regarding tentative nonconfirmations, will be consistent with the most current E-Verify tentative nonconfirmation notices and referral letters, which are available on E-Verify's website.
14. The Web Services E-Verify Employer Agent agrees that any system or interface it develops will follow the steps for creating E-Verify cases and processing tentative nonconfirmations, as laid out in the ICA, this MOU and the User Manual, including but not limited to allowing an employer to close an invalid case where appropriate, allowing an employer to refer a tentative nonconfirmation only when an employee chooses to contest a tentative nonconfirmation (no automatic referrals), and referring a tentative nonconfirmation to the appropriate agency at the time the employer prints the referral letter and provides the letter to the employee. The Web Services E-Verify Employer Agent understands that any failure to make its system or interface consistent with proper E-Verify procedures can result in DHS terminating the Web Services E-Verify Employer Agent's agreement and access with or without notice.
15. When the Web Services E-Verify Employer Agent receives notice from a client company that it has received a contract with the FAR clause, then the Web Services E-Verify Employer Agent must update the company's E-Verify profile within 30 days of the contract award date.
16. If data is transmitted between the Web Services E-Verify Employer Agent and its client, then the Web Services E-Verify Employer Agent agrees to protect personally identifiable information during transmission to and from the Web Services E-Verify Employer Agent.
17. The Web Services E-Verify Employer Agent agrees to notify DHS immediately in the event of a breach of personal information. Breaches are defined as loss of control or unauthorized access toE-Verify personal data. All suspected or confirmed breaches should be reported by calling 1-888-464-4218 or via email at . Please use "Privacy Incident - Password" in the subject line of your email when sending a breach report to E-Verify.
18. The Web Services E-Verify Employer Agent agrees to fully cooperate with DHS and SSA in their compliance monitoring and evaluation of E-Verify, including permitting DHS, SSA, their contractors and other agents, upon reasonable notice, to review Forms I-9, employment records, and all records pertaining to the Web Services E-Verify Employer Agent's use of E-Verify, and to interview it and its employees regarding the use of E-Verify, and to respond in a timely and accurate manner to DHS requests for information relating to their participation in E-Verify.

    A. The Web Services E-Verify Employer Agent agrees to cooperate with DHS if DHS requests information about the Web Services E-Verify Employer Agent's interface, including requests by DHS to view the actual interface operated by the Web Services E-Verify Employer Agent as well as related business documents. The Web Services E-Verify Employer Agent agrees to demonstrate for DHS the functionality of its interface to E-Verify upon request.

    B. The Web Services E-Verify Employer Agent agrees to demonstrate, if requested by DHS, that it has provided training to its clients that meets E-Verify standards. Training programs must provide a focused study of the topics covered in the E-Verify User Manual and pertinent Supplemental Guides. Furthermore, training programs and materials must be updated as E-Verify changes occur. The Web Services E-Verify Employer Agent is encouraged to incorporate information from existing E-Verify materials, including the Enrollment Quick Reference Guide, the E-Verify Employer Agent Client Handbook (formerly known as the Designated Agent Client Handbook), and existing tutorials and manuals into their training program. E-Verify also encourages the Web Services E-Verify Employer Agent to supervise first-time use of the E-Verify browser or Web Services interface by its staff and Employer clients as part of any training program. The Web Services E-Verify Employer Agent agrees to submit its training program materials to DHS for review upon request.

    Failure to provide adequate training could, in some instances, lead to penalties as described in Article V.F.1. of this MOU.

19. The Web Services E-Verify Employer Agent shall not make any false or unauthorized claims or references about its participation in E-Verify on its website, in advertising materials, or other media. The Web Services E-Verify Employer Agent shall not describe its services as federally-approved, federally-certified, or federally-recognized, or use language with a similar intent on its website or other materials provided to the public. Entering into this MOU does not mean that E-Verify endorses or authorizes your Web Services E-Verify Employer Agent services and any claim to that effect is false.
20. The Web Services E-Verify Employer Agent shall not state in its website or other public documents that any language used therein has been provided or approved by DHS, USCIS or the Verification Division, without first obtaining the prior written consent of DHS.
21. The Web Services E-Verify Employer Agent agrees that E-Verify trademarks and logos may be used only

under license by DHS/USCIS (see) and, other than pursuant to the specific terms of such license, may not be used in any manner that might imply that the Web Services E-Verify Employer Agent's services, products, websites, or publications are sponsored by, endorsed by, licensed by, or affiliated with DHS, USCIS, or E-Verify.

22. The Web Services E-Verify Employer Agent understands that if it uses E-Verify procedures for any purpose other than as authorized by this MOU, the Web Services E-Verify Employer Agent may be subject to appropriate legal action and termination of its participation in E-Verify according to this MOU.

C. RESPONSIBILITIES OF FEDERAL CONTRACTORS

The Web Services E-Verify Employer Agent shall ensure that the Web Services E-Verify Employer Agent and the Employers it represents carry out the following responsibilities if the Employer is a Federal contractor or becomes a federal contractor. The Web Services E-Verify Employer Agent should instruct the client to keep the Web Services E-Verify Employer Agent informed about any changes or updates related to federal contracts. It is the Web Services E-Verify Employer Agent's responsibility to ensure that its clients are in compliance with all E-Verify policies and procedures.

1. If the Employer is a Federal contractor with the FAR E-Verify clause subject to the employment verification terms in Subpart 22.18 of the FAR, it will become familiar with and comply with the most current version of the E-Verify User Manual for Federal Contractors as well as the E-Verify Supplemental Guide for Federal Contractors.
2. In addition to the responsibilities of every employer outlined in this MOU, the Employer understands that if it is a Federal contractor subject to the employment verification terms in Subpart 22.18 of the FAR it must verify the employment eligibility of any "employee assigned to the contract" (as defined in FAR 22.1801). Once an employee has been verified through E-Verify by the Employer, the Employer may not reverify the employee through E-Verify.
    A. An Employer that is not enrolled in E-Verify as a Federal contractor at the time of a contract award must enroll as a Federal contractor in the E-Verify program within 30 calendar days of contract award and, within 90 days of enrollment, begin to verify employment eligibility of new hires using E-Verify. The Employer must verify those employees who are working in the United States, whether or not they are assigned to the contract. Once the Employer begins verifying new hires, such verification of new hires must be initiated within three business days after the hire date. Once enrolled in E-Verify as a Federal contractor, the Employer must begin verification of employees assigned to the contract within 90 calendar days after the date of enrollment or within 30 days of an employee's assignment to the contract, whichever date is later.
    B. Employers enrolled in E-Verify as a Federal contractor for 90 days or more at the time of a contract award must use E-Verify to begin verification of employment eligibility for new hires of the Employer who are working in the United States, whether or not assigned to the contract, within three business days after the date of hire. If the Employer is enrolled in E-Verify as a Federal contractor for 90 calendar days or less at the time of contract award, the Employer must, within 90 days of enrollment, begin to use E-Verify to initiate verification of new hires of the contractor who are working in the United States, whether or not assigned to the contract. Such verification of new hires must be initiated within three business days after the date of hire. An Employer enrolled as a Federal contractor in E-Verify must begin verification of each employee assigned to the contract within 90 calendar days after date of contract award or within 30 days after assignment to the contract, whichever is later.
    C. Federal contractors that are institutions of higher education (as defined at 20 U.S.C. 1001(a)), state or local governments, governments of Federally recognized Indian tribes, or sureties performing under a takeover agreement entered into with a Federal agency under a performance bond may choose to only verify new and existing employees assigned to the Federal contract. Such Federal contractors may, however, elect to verify all new hires, and/or all existing employees hired after November 6, 1986. Employers in this category must begin verification of employees assigned to the contract within 90 calendar days after the date of enrollment or within 30 days of an employee's assignment to the contract, whichever date is later.
    D. Upon enrollment, Employers who are Federal contractors may elect to verify employment eligibility of all existing employees working in the United States who were hired after November 6, 1986, instead of verifying only those employees assigned to a covered Federal contract. After enrollment, Employers must elect to verify existing staff following DHS procedures and begin E-Verify verification of all existing employees within 180 days after the election.
    E. The Employer may use a previously completed Form I-9 as the basis for creating an E-Verify case for an employee assigned to a contract as long as:
        i. That Form I-9 is complete (including the SSN) and complies with Article II.A.6,

ii. The employee's work authorization has not expired, and

iii. The Employer has reviewed the information reflected in the Form I-9 either in person or in communications with the employee to ensure that the employee's Section 1, Form I-9 attestation has not changed (including, but not limited to, a lawful permanent resident alien having become a naturalized U.S. citizen).

F. The Employer shall complete a new Form I-9 consistent with Article II.A.6 or update the previous Form I-9 to provide the necessary information if:

i. The Employer cannot determine that Form I-9 complies with Article II.A.6,

ii. The employee's basis for work authorization as attested in Section 1 has expired or changed, or

iii. The Form I-9 contains no SSN or is otherwise incomplete.

Note: If Section 1 of Form I-9 is otherwise valid and up-to-date and the form otherwise complies with Article II.C.5, but reflects documentation (such as a U.S. passport or Form I-551) that expired after completing Form I-9, the Employer shall not require the production of additional documentation, or use the photo screening tool described in Article II.A.5, subject to any additional or superseding instructions that may be provided on this subject in the E-Verify User Manual.

G. The Employer agrees not to require a second verification using E-Verify of any assigned employee who has previously been verified as a newly hired employee under this MOU or to authorize verification of any existing employee by any Employer that is not a Federal contractor based on this Article.

3. The Employer understands that if it is a Federal contractor, its compliance with this MOU is a performance requirement under the terms of the Federal contract or subcontract, and the Employer consents to the release of information relating to compliance with its verification responsibilities under this MOU to contracting officers or other officials authorized to review the Employer's compliance with Federal contracting requirements.

D. RESPONSIBILITIES OF SSA

1. SSA agrees to allow DHS to compare data provided by the Employer (through the E-Verify Employer Agent) against SSA's database. SSA sends DHS confirmation that the data sent either matches or does not match the information in SSA's database.
2. SSA agrees to safeguard the information the Employer provides (through the E-Verify Employer Agent) through E-Verify procedures. SSA also agrees to limit access to such information, as is appropriate by law, to individuals responsible for the verification of Social Security numbers or responsible for evaluation of E-Verify or such other persons or entities who may be authorized by SSA as governed by the Privacy Act (5 U.S.C. Section 552a), the Social Security Act (42 U.S.C. 1306(a)), and SSA regulations (20 CFR Part 401).
3. SSA agrees to provide case results from its database within three Federal Government work days of the initial inquiry. E-Verify provides the information to the E-Verify Employer Agent.
4. SSA agrees to update SSA records as necessary if the employee who contests the SSA tentative nonconfirmation visits an SSA field office and provides the required evidence. If the employee visits an SSA field office within the eight Federal Government work days from the date of referral to SSA, SSA agrees to update SSA records, if appropriate, within the eight-day period unless SSA determines that more than eight days may be necessary. In such cases, SSA will provide additional instructions to the employee. If the employee does not visit SSA in the time allowed, E-Verify may provide a final nonconfirmation to the E-Verify Employer Agent.

   Note: If an Employer experiences technical problems, or has a policy question, the employer should contact E-Verify at 1-888-464-4218.

E. RESPONSIBILITIES OF DHS

1. DHS agrees to provide the Employer with selected data from DHS databases to enable the Employer (through the E-Verify Employer Agent) to conduct, to the extent authorized by this MOU:

   A. Automated verification checks on alien employees by electronic means, and

   B. Photo verification checks (when available) on employees.

2. DHS agrees to assist the E-Verify Employer Agent with operational problems associated with its participation in E-Verify. DHS agrees to provide the E-Verify Employer Agent names, titles, addresses, and telephone numbers of DHS representatives to be contacted during the E-Verify process.

3. DHS agrees to provide to the E-Verify Employer Agent with access to E-Verify training materials as well as an E-Verify User Manual that contain instructions on E-Verify policies, procedures, and requirements for both SSA and DHS, including restrictions on the use of E-Verify.
4. DHS agrees to train E-Verify Employer Agents on all important changes made to E-Verify through the use of mandatory refresher tutorials and updates to the E-Verify User Manual. Even without changes to E-Verify, DHS reserves the right to require E-Verify Employer Agents to take mandatory refresher tutorials.
5. DHS agrees to provide to the Employer (through the E-Verify Employer Agent) a notice, which indicates the Employer's participation in E-Verify. DHS also agrees to provide to the Employer anti-discrimination notices issued by the Office of Special Counsel for Immigration-Related Unfair Employment Practices (OSC), Civil Rights Division, U.S. Department of Justice.
6. DHS agrees to issue each of the E-Verify Employer Agent's E-Verify users a unique user identification number and password that permits them to log in to E-Verify.
7. DHS agrees to safeguard the information the Employer provides (through the E-Verify Employer Agent), and to limit access to such information to individuals responsible for the verification process, for evaluation of E-Verify, or to such other persons or entities as may be authorized by applicable law. Information will be used only to verify the accuracy of Social Security numbers and employment eligibility, to enforce the INA and Federal criminal laws, and to administer Federal contracting requirements.
8. DHS agrees to provide a means of automated verification that provides (in conjunction with SSA verification procedures) confirmation or tentative nonconfirmation of employees' employment eligibility within three Federal Government work days of the initial inquiry.
9. DHS agrees to provide a means of secondary verification (including updating DHS records) for employees who contest DHS tentative nonconfirmations and photo mismatch tentative nonconfirmations. This provides final confirmation or nonconfirmation of the employees' employment eligibility within 10 Federal Government work days of the date of referral to DHS, unless DHS determines that more than 10 days may be necessary. In such cases, DHS will provide additional verification instructions.

ARTICLE III

REFERRAL OF INDIVIDUALS TO SSA AND DHS

A. REFERRAL TO SSA

1. If the Employer receives a tentative nonconfirmation issued by SSA, the Employer must print the notice as directed by E-Verify. The Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Employer also agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Employer agrees to provide written referral instructions to employees and instruct affected employees to bring the English copy of the letter to the SSA. The Employer must allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending.
2. The Employer agrees to obtain the employee's response about whether he or she will contest the tentative nonconfirmation as soon as possible after the Employer receives the tentative nonconfirmation. Only the employee may determine whether he or she will contest the tentative nonconfirmation.
3. After a tentative nonconfirmation, the Employer will refer employees to SSA field offices only as directed by E-Verify. The Employer must record the case verification number, review the employee information submitted to E-Verify to identify any errors, and find out whether the employee contests the tentative nonconfirmation. The Employer will transmit the Social Security number, or any other corrected employee information that SSA requests, to SSA for verification again if this review indicates a need to do so.
4. The Employer will instruct the employee to visit an SSA office within eight Federal Government work days. SSA will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary.
5. While waiting for case results, the Employer agrees to check the E-Verify system regularly for case updates.
6. The Employer agrees not to ask the employee to obtain a printout from the Social Security Administration number database (the Numident) or other written verification of the SSN from the SSA.

B. REFERRAL TO DHS

1. If the Employer receives a tentative nonconfirmation issued by DHS, the Employer must promptly notify employees in private of the finding and provide them with the notice and letter containing information specific to the employee's E-Verify case. The Employer also agrees to provide both the English and the translated notice and letter for employees with limited English proficiency to employees. The Employer must

allow employees to contest the finding, and not take adverse action against employees if they choose to contest the finding, while their case is still pending.

2. The Employer agrees to obtain the employee's response about whether he or she will contest the tentative nonconfirmation as soon as possible after the Employer receives the tentative nonconfirmation. Only the employee may determine whether he or she will contest the tentative nonconfirmation.
3. The Employer agrees to refer individuals to DHS only when the employee chooses to contest a tentative nonconfirmation.
4. If the employee contests a tentative nonconfirmation issued by DHS, the Employer will instruct the employee to contact DHS through its toll-free hotline (as found on the referral letter) within eight Federal Government work days.
5. If the Employer finds a photo mismatch, the Employer must provide the photo mismatch tentative nonconfirmation notice and follow the instructions outlined in paragraph 1 of this section for tentative nonconfirmations, generally.
6. The Employer agrees that if an employee contests a tentative nonconfirmation based upon a photo mismatch, the Employer will send a copy of the employee's Form I-551, Form I-766, U.S. Passport, or passport card to DHS for review by:
    A. Scanning and uploading the document, or
    B. Sending a photocopy of the document by express mail (furnished and paid for by the employer).
7. The Employer understands that if it cannot determine whether there is a photo match/mismatch, the Employer must forward the employee's documentation to DHS as described in the preceding paragraph. The Employer agrees to resolve the case as specified by the DHS representative who will determine the photo match or mismatch.
8. DHS will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary.
9. While waiting for case results, the Employer agrees to check the E-Verify system regularly for case updates.

ARTICLE IV

SERVICE PROVISIONS

A. NO SERVICE FEES

1. SSA and DHS will not charge the Employer or the Web Services E-Verify Employer Agent for verification services performed under this MOU. The Employer is responsible for providing equipment needed to make inquiries. To access E-Verify, an Employer will need a personal computer with Internet access.

ARTICLE V

SYSTEM SECURITY AND MAINTENANCE

A. DEVELOPMENT REQUIREMENTS

1. Software developed by Web Services E-Verify Employer Agents must comply with federally-mandated information security policies and industry security standards to include but not limited to:
2. Public Law 107-347, "E-Government Act of 2002, Title III, Federal Information Security Management Act (FISMA)," December 2002.
3. Office of Management and Budget (OMB) Memorandum (M-10-15), "FY 2010 Reporting Instructions for the Federal Information Security Management Act and Agency Privacy Management," April 2010.
4. National Institute of Standards and Technology (NIST) Special Publication (SP) and Federal Information Processing Standards Publication (FIPS).
5. International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 27002, Information Technology - Security Techniques - Code of Practice for Information Security Management.
6. The Web Services E-Verify Employer Agent agrees to update its Web Services interface to reflect system enhancements within six months from the date DHS notifies the Web Services User of the system update. The Web Services User will receive notice from DHS in the form of an Interface Control Agreement (ICA). The Web Services E-Verify Employer Agent agrees to institute changes to its interface as identified in the ICA, including all functionality identified and all data elements detailed therein.
7. The Web Services E-Verify Employer Agent agrees to demonstrate progress of its efforts to update its Web Services interface if and when DHS requests such progress reports.

8. The Web Services E-Verify Employer Agent acknowledges that if its system enhancements are not completed to the satisfaction of DHS or its assignees within six months from the date DHS notifies the Web Services User of the system update, then the Web Services User's E-Verify account may be suspended, and support for previous releases of E-Verify may no longer be available to the Web Services User. The Web Services E-Verify Employer Agent also acknowledges that DHS may suspend the Web Services User's account after the six-month period has elapsed.
9. The Web Services E-Verify Employer Agent agrees to incorporate error handling logic into its development or software to accommodate and act in a timely fashion should an error code be returned.
10. The Web Services E-Verify Employer Agent agrees to complete the technical requirements testing which is confirmed upon receiving approval of test data and connectivity between the Web Services E-Verify Employer Agent and DHS.
11. DHS will not reimburse any Web Services E-Verify Employer Agent or software developer who has expended resources in the development or maintenance of a Web Services interface if that party is unable, or becomes unable, to meet any of the requirements set forth in this MOU.
12. Housing, development, infrastructure, maintenance, and testing of the Web Services applications may take place outside the United States and its territories, but testing must be conducted to ensure that the code is correct and secure.
13. If the Web Services E-Verify Employer Agent includes an electronic Form I-9 as part of its interface, then it must comply with the standards for electronic retention of Form I-9 found in 8 CFR 274a.2(e).

B. INFORMATION SECURITY REQUIREMENTS

Web Services E-Verify Employer Agents performing verification services under this MOU must ensure that information that is shared between the Web Services E-Verify Employer Agent and DHS is appropriately protected comparable to the protection provided when the information is within the DHS environment [OMB Circular A-130 Appendix III].

To achieve this level of information security, the Web Services E-Verify Employer Agent agrees to institute the following procedures:

1. Conduct periodic assessments of risk, including the magnitude of harm that could result from the unauthorized access, use, disclosure, disruption, modification, or destruction of information and information systems that support the operations and assets of the DHS, SSA, and the Web ServicesE-Verify Employer Agent and its clients;
2. Develop policies and procedures that are based on risk assessments, cost-effectively reduce information security risks to an acceptable level, and ensure that information security is addressed throughout the life cycle of each organizational information system;
3. Implement subordinate plans for providing adequate information security for networks, facilities, information systems, or groups of information systems, as appropriate;
4. Conduct security awareness training to inform the Web Services E-Verify Employer Agent's personnel (including contractors and other users of information systems that support the operations and assets of the organization) of the information security risks associated with their activities and their responsibilities in complying with organizational policies and procedures designed to reduce these risks;
5. Develop periodic testing and evaluation of the effectiveness of information security policies, procedures, practices, and security controls to be performed with a frequency depending on risk, but no less than once per year;
6. Develop a process for planning, implementing, evaluating, and documenting remedial actions to address any deficiencies in the information security policies, procedures, and practices of the organization;
7. Implement procedures for detecting, reporting, and responding to security incidents;
8. Create plans and procedures to ensure continuity of operations for information systems that support the operations and assets of the organization;
9. In information-sharing environments, the information owner is responsible for establishing the rules for appropriate use and protection of the subject information and retains that responsibility even when the information is shared with or provided to other organizations [NIST SP 800-37].
10. DHS reserves the right to restrict Web Services calls from certain IP addresses.
11. DHS reserves the right to audit the Web Services E-Verify Employer Agent's application.
12. Web Services E-Verify Employer Agents and Software Developers agree to cooperate willingly with the DHS assessment of information security and privacy practices used by the company to develop and maintain the

software.

C. DATA PROTECTION AND PRIVACY REQUIREMENTS

1. Web Services E-Verify Employer Agents must practice proper Internet security; this means using HTTP over SSL/TLS (also known as HTTPS) when accessing DHS information resources such as E-Verify [NIST SP 800-95]. Internet security practices like this are necessary because Simple Object Access Protocol (SOAP), which provides a basic messaging framework on which Web Services can be built, allows messages to be viewed or modified by attackers as messages traverse the Internet and is not independently designed with all the necessary security protocols for E-Verify use.
2. In accordance with DHS standards, the Web Services E-Verify Employer Agent agrees to maintain physical, electronic, and procedural safeguards to appropriately protect the information shared under this MOU against loss, theft, misuse, unauthorized access, and improper disclosure, copying use, modification or deletion.
3. Any data transmission requiring encryption shall comply with the following standards:
    A. Products using FIPS 197 Advanced Encryption Standard (AES) algorithms with at least 256-bit encryption that has been validated under FIPS 140-2.
    B. NSA Type 2 or Type 1 encryption.
4. User ID Management (Set Standard): All information exchanged between the parties under this MOU will be done only through authorized Web Services E-Verify Employer Agent representatives identified above.
5. The Web Services E-Verify Employer Agent agrees to use the E-Verify browser instead of its own interface if it has not yet upgraded its interface to comply with the Federal Acquisition Regulation (FAR) system changes. In addition, Web Services E-Verify Employer Agents whose interfaces do not support the Form I-9 from 2/2/2009 or 8/7/2009 should also use the E-Verify browser until the system upgrade is completed.
6. The Web Services E-Verify Employer Agent agrees to use the E-Verify browser instead of its own interface if it has not completed updates to its system within six months from the date DHS notifies the Web Services E-Verify Employer Agent of the system update. The Web Services E-Verify Employer Agent can resume use of its interface once it is up-to-date, unless the Web Services E-Verify Employer Agent has been suspended or terminated from continued use of the system.

D. COMMUNICATIONS

1. Web Services E-Verify Employer Agents and Software Developers agree to develop an electronic system that is not subject to any agreement that would restrict access to and use of by an agency of the United States.
2. The Web Services E-Verify Employer Agent agrees to develop effective controls to ensure the integrity, accuracy and reliability of its electronic system.
3. The Web Services E-Verify Employer Agent agrees to develop an inspection and quality assurance program that regularly, at least once per year, evaluates the electronic system, and includes periodic checks of electronically stored information. The Web Services E-Verify Employer Agent agrees to share the results of its regular inspection and quality assurance program with DHS upon request.
4. The Web Services E-Verify Employer Agent agrees to develop an electronic system with the ability to produce legible copies of applicable notices, letters, etc.
5. All information exchanged between the parties under this MOU will be in accordance with applicable laws, regulations, and policies, including but not limited to, information security guidelines of the sending party with respect to any information that is deemed Personally Identifiable Information (PII), including but not limited to the employee or applicant's Social Security number, alien number, date of birth, or other information that may be used to identify the individual.
6. Suspected and confirmed information security breaches must be reported to DHS according to Article II.A.17. Reporting such breaches does not relieve the Web Services E-Verify Employer Agent from further requirements as directed by state and local law. The Web Services E-Verify Employer Agent is subject to applicable state laws regarding data protection and incident reporting in addition to the requirements herein.

E. SOFTWARE DEVELOPER RESTRICTIONS

1. The Web Services E-Verify Employer Agent agrees that if it develops a Web Services interface and sells such interface, then it can be held liable for any misuse by the company that purchases the interface. It is the responsibility of the Web Services E-Verify Employer Agent to ensure that its interface is used in accordance with E-Verify policies and procedures.

Company ID Number:40635 Client Company ID Number:1491821

2. The Web Services E-Verify Employer Agent agrees to provide software updates to each client who purchases its software. Because of the frequency Web Services updates, an ongoing relationship between the software developer and the client is necessary.
3. DHS reserves the right to terminate the access of any software developer with or without notice who creates or uses an interface that does not comply with E-Verify procedures.
4. Web Services Software Developers pursuing software development independent of serving clients as a Web Services E-Verify Employer Agent are not eligible to receive an ICA. At this time, E-Verify does not permit Web Services software development without also being a Web Services E-Verify Employer Agent or Web Services Employer.

F. PENALTIES

1. The Web Services E-Verify Employer Agent agrees that any failure on its part to comply with the terms of the MOU may result in account suspension, termination, or other adverse action.
2. DHS is not liable for any financial losses to Web Services E-Verify Employer Agent, its clients, or any other party as a result of your account suspension or termination.

ARTICLE VI

MODIFICATION AND TERMINATION

A. MODIFICATION

1. This MOU is effective upon the signature of all parties and shall continue in effect for as long as the SSA and DHS operates the E-Verify program unless modified in writing by the mutual consent of all parties.
2. Any and all E-Verify system enhancements by DHS or SSA, including but not limited to E-Verify checking against additional data sources and instituting new verification policies or procedures, will be covered under this MOU and will not cause the need for a supplemental MOU that outlines these changes.

B. TERMINATION

1. The Web Services E-Verify Employer Agent may terminate this MOU and its participation in E-Verify at any time upon 30 days prior written notice to the other parties. In addition, any Employer represented by the Web Services E-Verify Employer Agent may voluntarily terminate its MOU upon giving DHS 30 days' written notice. The Web Services E-Verify Employer Agent may not refuse to terminate the Employer based upon an outstanding bill for verification services.
2. Notwithstanding Article V, part A of this MOU, DHS may terminate this MOU, and thereby the Web Services E-Verify Employer Agent's participation in E-Verify, with or without notice at any time if deemed necessary because of the requirements of law or policy, or upon a determination by SSA or DHS that there has been a breach of system integrity or security by the Web Services E-Verify Employer Agent or Employer, or a failure on the part of either party to comply with established E-Verify procedures and/or legal requirements. The Employer understands that if it is a Federal contractor, termination of this MOU by any party for any reason may negatively affect the performance of its contractual responsibilities. Similarly, the Employer understands that if it is in a state where E-Verify is mandatory, termination of this by any party MOU may negatively affect the Employer's business.
3. A Web Services E-Verify Employer Agent for an Employer that is a Federal contractor may terminate this MOU when the Federal contract that requires its participation in E-Verify is terminated or completed. In such cases, the Web Services E-Verify Employer Agent must provide written notice to DHS. If the Web Services E-Verify Employer Agent fails to provide such notice, then that Employer will remain an E-Verify participant, will remain bound by the terms of this MOU that apply to non-Federal contractor participants, and will be required to use the E-Verify procedures to verify the employment eligibility of all newly hired employees.
4. The Web Services E-Verify Employer Agent agrees that E-Verify is not liable for any losses, financial or otherwise, if the Web Services E-Verify Employer Agent or the Employer is terminated from E-Verify.

ARTICLE VII

PARTIES

A. Some or all SSA and DHS responsibilities under this MOU may be performed by contractor(s), and SSA and DHS may adjust verification responsibilities between each other as necessary. By separate agreement with DHS, SSA has agreed to perform its responsibilities as described in this MOU.

B. Nothing in this MOU is intended, or should be construed, to create any right or benefit, substantive or procedural, enforceable at law by any third party against the United States, its agencies, officers, or employees, or against the Web Services E-Verify Employer Agent, its agents, officers, or employees.

Company ID Number:40635 Client Company ID Number:1491821

C. The Web Services E-Verify Employer Agent may not assign, directly or indirectly, whether by operation of law, change of control or merger, all or any part of its rights or obligations under this MOU without the prior written consent of DHS, which consent shall not be unreasonably withheld or delayed. Any attempt to sublicense, assign, or transfer any of the rights, duties, or obligations herein is void.

D. Each party shall be solely responsible for defending any claim or action against it arising out of or related to E-Verify or this MOU, whether civil or criminal, and for any liability wherefrom, including (but not limited to) any dispute between the Web Services E-Verify Employer Agent or the Employer and any other person or entity regarding the applicability of Section 403(d) of IIRIRA to any action taken or allegedly taken by the Web Services E-Verify Employer Agent or the Employer.

E. The Web Services E-Verify Employer Agent understands that its participation in E-Verify is not confidential information and may be disclosed as authorized or required by law and DHS or SSA policy, including but not limited to, Congressional oversight, E-Verify publicity and media inquiries, determinations of compliance with Federal contractual requirements, and responses to inquiries under the Freedom of Information Act (FOIA).

F. The individuals whose signatures appear below represent that they are authorized to enter into this MOU on behalf of the Employer, the Web Services E-Verify Employer Agent and DHS respectively. The Web Services E-Verify Employer Agent understands that any inaccurate statement, representation, data or other information provided to DHS may subject the Web Services E-Verify Employer Agent, as the case may be, its subcontractors, its employees, or its representatives to: (1) prosecution for false statements pursuant to 18 U.S.C. 1001 and/or; (2) immediate termination of its MOU and/or; (3) possible debarment or suspension.

G. The foregoing constitutes the full agreement on this subject between DHS, the Employer, and the E-Verify Employer Agent. Carollo Engineers, Inc. (Employer) hereby designates and appoints Tom Pennell (E- Verify Employer Agent), including its officers and employees, as the E-Verify Employer Agent for the purpose of carrying out (Employer) responsibilities under the MOU between the Employer, the E-Verify Employer Agent, and DHS.

Company ID Number:40635 Client Company ID Number:1491821

If you have any questions, contact E-Verify at 1-888-464-4218.

Approved by:

Employer	
Name (Please Type or Print)	Title
Signature	Date
E-Verify Employer Agent LawLogix Group, Inc.	
Name (Please Type or Print) Tom Pennell	Title
Signature Electronically Signed	Date January 16, 2020
Department of Homeland Security - Verification Division	
Name	Title
Signature	Date

Company ID Number:40635 Client Company ID Number:1491821

Information Required for the E-Verify Program **Information relating to your Company:**	
Company Name	Carollo Engineers, Inc.
Company Facility Address	2795 Mitchell Drive Walnut Creek, CA 94598
Company Alternate Address	4600 E Washington St Suite 500 Phoenix, AZ 85034
County or Parish	Contra Costa
Employer Identification Number	86-0899222
North American Industry Classification Systems Code	Professional, Scientific, And Technical Services (541)
Parent Company	
Number of Employees	1,000 to 2,499
Number of Sites Verified for	46

Company ID Number:40635 Client Company ID Number:1491821

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State:

California	10
Texas	7
Virginia	1
Florida	7
Massachusetts	1
Wisconsin	1
Illinois	1
Colorado	3
Missouri	1
New Mexico	1
Idaho	1
Arizona	3
Washington	1
Hawaii	1
Oklahoma	1
Nevada	2
Oregon	1
Utah	1
Nebraska	1
New York	1



Company ID Number:40635 Client Company ID Number:1491821

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name	Angie Keezer
Phone Number	(602) 474-4236
Fax Number	
Email Address	akeezer@carollo.com

Name	Christian Varela
Phone Number	(602) 474-4287
Fax Number	
Email Address	cvarela@carollo.com

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: Carollo Engineers, Inc.

Reference Entity: Lee County Utilities

Reference Contact Person: Henry Barroso

Reference Address: 18250 Durrance Road, Fort Myers, FL 33917

Reference Email Address: hbarroso@leegov.com

Reference Phone No.: 239-567-2182

Project Name: North Lee County Water Treatment Plant Expansion to 10-mgd

Project Location: Fort Myers, FL

Consultant Project Manager: Tom Seacord

Contract Amount: $18.5M (progressive design-build and construction)

Date Project Commenced: 2009

Date of Final Completion: 2011

Description of Work Performed:
Carollo was retained to provide planning, design, permitting, and engineering services during construction of the improvements and expansion.
The project included an RO pilot study, RO membrane plant upgrades and expansion, distribution modeling for high service pump station design, instrumentation and controls and O&M manual.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: Carollo Engineers, Inc.

Reference Entity: Polk Regional Water Cooperative

Reference Contact Person: Eric DeHaven

Reference Address: P.O. Box 9005 Bartow FL 33831-9005

Reference Email Address: ericdehaven@prwcwater.org

Reference Phone No.: 813-323-7061

Project Name: Southeast and West Polk WTPs

Project Location: Lake Wales and Lakeland FL

Consultant Project Manager: Mary Thomas

Contract Amount: Approximately $94M

Date Project Commenced: October, 2017

Date of Final Completion: PDRs Completed October 2021; Final Design and construction ongoing

Description of Work Performed:

Carollo has led a multidisciplinary team who conducted hydraulic modeling, developed conceptual and preliminary designs for four water supply projects, collaborated closely with each of the members to incorporate member feedback, and worked side-by-side with Southwest Florida water Management District (SWFWMD) staff so the projects were permittable and co-fundable. Based on the strong performance of this work, the Carollo team has now been selected to complete final design and engineering during construction of not one, but two brackish water supply projects, the Southeast and West Polk Wellfield, Water Production Facilities, and Transmission projects.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: Carollo Engineers, Inc.

Reference Entity: Collier County

Reference Contact Person: Craig Pajer

Reference Address: 3339 East Tamiami Trail, Suite 303, Naples, FL 34112

Reference Email Address: craigpajer@colliergov.net

Reference Phone No.: 239-269-1889

Project Name: Collier County Northeast Water Treatment Plant

Project Location: Naples, FL

Consultant Project Manager: Bob Cushing

Contract Amount: $4,500,000

Date Project Commenced: 2/2005 (Design update and project initiation anticipated 5/2023)

Date of Final Completion: 5/2027 (anticipated)

Description of Work Performed:

Carollo provided permitting and design-phase services for a new 10-mgd RO treatment plant co-located with a 4-mgd water reclamation facility that will share common facilities with each other (stand-by power generation and administrative facilities). The Northeast Water Treatment Plant (WTP) had an initial capacity of 10-mgd with an ultimate capacity of 40-mgd, and uses RO membranes to treat a brackish groundwater supply blended with ion exchange treated fresh groundwater. This project was shelved for several years and recently Carollo was selected by the County to re-desin the plant.


carollo®

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Professional Services for the Peace River Brackish Groundwater Facility Project

Due Date and Time: March 13, 2023 | 10:00 AM





Prepared by:
CHA Consulting, Inc.
Barton Jones, PE
3507 East Frontage Road, Suite 180
Tampa, FL 33607
T: 813.549.0919 | E: BJones@chacompanies.com

TABLE OF CONTENTS

TABLE OF CONTENTS

Table of Contents

Letter of Interest | 1

Section 0. Background | 3

Section 1. Project Manager & Management | 9

Section 2. Consultant Team's Engineering Experience | 13

Section 3. Consultant Team's Hydrogeologic Experience | 23

Section 4. Preliminary Project Understanding, Approach, and Schedule | 27

Section 5. Well Construction Contractor Approach | 38

Section 6. Required Forms | 40

LETTER OF INTEREST

March 13, 2023

Procurement—Professional Services Evaluation Committee
Peace River Manasota Regional Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, FL 34202

RE: Request for Statements of Qualifications - Professional Services for the Peace River Brackish Groundwater Facility

Dear Members of the Professional Services Evaluation Committee (PSEC):

Thank you for providing CHA Consulting, Inc. (CHA) this opportunity to provide professional engineering and hydrogeologic services to prepare a Preliminary Engineering Report (PER) for a brackish groundwater facility capable of producing a maximum of 6.0 million gallons per day (mgd) of finished potable water meeting primary and secondary Federal water quality standards. The treated effluent from the brackish groundwater facility will be blended with the finished water produced by the surface water treatment facility before introduction into the Peace River Manasota Regional Water Supply Authority's (Authority) water transmission system. The PER is intended to produce an approximate 30% completed design with an attendant Opinion of Probable Construction Cost.

WHY CHA?

- ✓ **Highly Experienced Staff |** Extensive experience in brackish membrane treatment technologies in Florida.
- ✓ **Local Florida Regulatory Familiarity |** The entire CHA team has extensive Florida regulatory experience in permitting new water treatment facilities and executing WUP applications and modifications.
- ✓ **Specific PRMRWSA Knowledge |** Both the engineering team and the hydrogeologist team have long-term relationships and experience providing service at the Authority's PRF and within the Authority's transmission system and working with the Authority's member governments and SWFWMD.
- ✓ **Long-time Hydrogeology Experience in Southwest Florida |** Both hydrogeology teams have been designing supply and deep injection wells for over 40 years in proximity to the Authority.
- ✓ **Client Service Manager has Senior-Level Public Sector Experience |** Our CSM understands the Authority's issues, concerns, and expectations and is your advocate during project execution by bringing his owner's perspective to the team.

We have assembled a team of highly qualified professional engineers, professional hydrogeologists, and specialists to successfully execute this assignment for presentation to the Authority Board at the April 2024 Board meeting. Our CHA team will be managed and led by Robert Reiss, PE, PhD, who is recognized state-wide for his expertise in membrane water treatment processes and auxiliary treatment components. Because this PER intersects ongoing operation at the Peace River Facility (PRF), we have teamed with the **Ardurra Group, Inc.** (Ardurra) (Chris Kuzler), who has been serving the Authority for over 15 years and have extensive experience at the PRF and with the Authority's water transmission system. We fully understand that groundwater supply wells and brackish groundwater treatment concentrate disposal are critical elements of this undertaking. We have therefore teamed with **Water Science Associates** (WSA) (Kirk Martin) for the lead on supply well development and peer review of the deep injection well (DIW) for concentrate disposal; along with **ASRus** (Mark McNeal) for the lead on the DIW for the treatment concentrate disposal and peer review of the supply wells. Many firms have the expertise and experience the Authority seeks capable of developing this PER. Therefore, the question becomes, "why choose CHA?" The answer is simple. The assembled team of professionals has completed many similar projects in Florida and is ready to successfully execute this project.

The Authority anticipates selecting a firm to perform the PER in April 2023, with an anticipated Notice to Proceed issued shortly after the Board meets in June 2023. The PER must be completed and submitted for board action at the April 2024 meeting. The CHA team commits to meeting this schedule.

Full-service Engineering Firm. CHA, an Engineering News Record (ENR) Top-60 firm, is an industry leader in providing professional engineering solutions and offers the comprehensive engineering expertise necessary to maintain the Authority's infrastructure, safeguard the environment and public health, and bring innovation and best practices to enhance current and future operations.

Local, Respected Subconsultants. The CHA team is comprised of several local subconsultants. These subconsultants were selected based on their qualifications and history of providing responsive, high-quality service to CHA and/or the Authority. Our primary subconsultants are **Ardurra** for their Authority expertise and engineering project experiences; **WSA** for their 40 years of experience in groundwater supply and monitoring well design in southwest Florida; **ASRus** for their ASR well experience, specifically with the Authority and for their recognition as experts in the design and construction of deep injection wells; **Applied Sciences** (Tom Burke) for his expertise in matters where interfacing with Southwest Florida Water Management District (SWFWMD) is critical to successful project execution; and **Tierra** for their geotechnical expertise in southwestern Florida.

The management of Authority financial resources provides high-quality service to your members and customers while maintaining a low base and user rates to the public. We understand the Authority has to receive maximum value for each dollar spent and are eager to deliver this professional service for you.

We greatly appreciate your consideration of the CHA team's qualifications and experiences for this assignment. We are committed to working in full partnership with Authority staff and are ready to listen, understand and act upon your needs. We have developed the attached statement of qualifications to demonstrate the CHA team's experiences and approach to providing the high-quality services this project demands and expects. Should you have any questions, or if we may be of further service to the Authority, please reach out to us.

Sincerely,

C. Robert Reiss, PhD, PE
Vice President/Florida Team Leader
407.789.0403
CReiss@chacompanies.com

Barton Jones, PE
Client Service Manager
813.819.0563
BJones@chacompanies.com

SECTION 0. BACKGROUND

Background Summary of the Firm

CHA is an innovative, full-service engineering consulting and construction management firm **delivering sustainable, integrated solutions to the world's most challenging infrastructure projects**. With decades of experience, we bring inspired talent, forward-leaning technology, and essential partnerships to meet our clients' evolving needs. We are your trusted advisors and partners, committed to **responsibly improving the world we live in.**

CHA serves as your single point of contact from start to finish, utilizing technology advancements and adapting teams, schedules, budgets, and services to each unique challenge. Our client focus is driven by trust and collaboration. We study, design, manage, and build **projects that enhance our communities and our world.** At CHA, engineering and client engagement go hand-in-hand. Providing both yields **amazing value… and amazing results.**

Legal Firm Name and Form of Company

CHA Consulting, Inc. - Corporation; CHA is active and in good standing with the Florida Department of State under document number F08000004937.

Primary Contact Information

Barton Jones, PE, Client Service Manager
3507 East Frontage Road, Suite 180
Tampa, FL 336072
M: 608.469.6994
E: BJones@chacompanies.com

C. Robert Reiss, PhD, PE, Project Manager
1016 Spring Villas Pt.
Winter Springs, FL 32708
T: 407.679.5358
E: CReiss@chacompanies.com

Principal Office Locations

CHA Tampa - Primary Office Location
3507 East Frontage Road
Suite 180
Tampa, FL 336072

CHA Winter Springs - Primary Office Location
1016 Spring Villas Pt.
Winter Springs, FL 32708

Subconsultant Summaries and Office Locations

ARDURRA GROUP, INC.

Survey/SUE/Misc. Additional Tasks
2930 University Parkway
Sarasota, FL 34243

Ardurra Group, Inc., is a Top 500 ENR-ranked Florida Corporation providing multi-disciplinary services to municipalities and agencies in Florida and nationwide since 1977. They have been working with the Authority since 2007 and have held an Agreement for General Professional Engineering Services with the Authority since 2015. Their team members bring personal relevant experience working with the Authority and specifically with identifying means of increasing the water production capacity of the PRF. They recently completed the Peace River Facility Capacity Optimization Study and will provide valuable insight into how this proposed reverse osmosis facility can integrate with the existing facility and the effects of blending the finished water from both facilities.

APPLIED SCIENCES CONSULTING, INC.

SWFMWD Liaison
1000 N Ashley Drive, #500
Tampa, FL 33602

Applied Sciences serves public agencies seeking practical, innovative, and cost-effective solutions to a broad array of water, environmental, civil engineering, climate change, and growth management challenges. Established in 2005 and headquartered in Tampa, Florida, Applied Sciences has earned a reputation for excellence among public agencies who rely on the firm's responsiveness, seasoned professionals, knowledge of the community's priorities, subject matter expertise, and industry leaders to tackle their infrastructure challenges.

WATER SCIENCE ASSOCIATES, INC.
Hydrogeological/Lead Supply Wells
13620 Metropolis Avenue, #110
Fort Myers, FL 33912

With a world-class technical team committed to customer service and offering unmatched hydrogeologic expertise to the Florida marketplace, Water Science has provided consistent and comprehensive services since 2013. Water Science is a specialty hydrogeologic consulting firm focused on water resource evaluation, planning, design, permitting, and construction. Water Science takes pride in their reputation for responsive, client-focused, and solutions-oriented services. They believe in listening carefully to project needs and client objectives, collaborating effectively with project team members, and delivering appropriate and cost-effective solutions to our client's most challenging water resource engineering issues. Regarding this specific Request for Qualifications regarding brackish wellfields and Class I injection wells, their staff has designed, permitted, and/or overseen the construction of sixteen brackish wellfields located across the state, including one near the PRF. Additionally, their staff has permitted, designed, and overseen the construction of four Class I injection wells targeting the Boulder Zone within 25 miles of the Peace River Water Treatment Facility.

ASRUS, LLC
Hydrogeological/Lead Disposal Wells
2309 Cape Bend Avenue
Tampa, FL 33613

ASRus was founded in 2006 to provide hydrogeological and reuse-related professional services to municipal and industrial clients in Florida. They are proud to have worked with the Authority since their firm founding. The firm was founded by its Chief Executive Officer Mark McNeal, PG, who has 37 years of experience related to groundwater and reuse projects in Florida. He has actively worked for the Authority on various assignments since the 1980s. Pete Larkin, PG, joined the firm as a Vice President in February 2015, further strengthening the firm's Underground Injection Control (UIC) capabilities. ASRus is small, which allows them to work closely with larger consulting firms to provide expertise in projects such as municipal and industrial deep injection wells, Aquifer Storage Recovery (ASR), aquifer recharge, strategic water resources planning, groundwater modeling, and water supply development and permitting.

EMI CONSULTING SPECIALTIES, INC.
Electrical/I&C/SCADA
55742 River Bed Road
Groveland, FL 34736

EMI has provided engineering design expertise in power, lighting, control, and instrumentation systems for central Florida municipal water and wastewater utilities for many years. EMI provides these comprehensive services to more than 30 municipal clients in the public and industrial sectors. EMI's combination of electrical, power, and control system expertise has contributed to economical designs and builds. EMI's expertise in instrumentation and controls includes computer-based data acquisition systems, programmable logic controllers (PLCs), analog loop/discrete conventional control systems, and flow/analytical meter evaluation and selection.

WEKIVA ENGINEERING, LLC
Structural
711 N Orange Avenue, Suite A
Winter Park, FL 32789

Wekiva provides structural engineering services to various industry sectors, including water and wastewater facilities, solid waste facilities, and commercial buildings. Wekiva's highly experienced and talented engineers have been providing cost-effective solutions and exceptional results for their clients throughout the southeastern United States.

Wekiva is proficient in the various applicable design and building codes, allowing them to apply effective and proper solutions early in the design stage. In addition, Wekiva's engineers frequently work with contractors providing value engineering ideas and solutions; this allows them to be intimately involved with the entire process of a structure's evolution from conception to final construction activities. Being a small, local company, Wekiva is uniquely capable of providing quick and quality engineering services to local communities and municipalities.

TIERRA, INC.
Geotechnical
7351 Temple Terrace Highway
Tampa, FL 33637

Tierra is a full-service consulting geotechnical, structural, forensics, environmental and construction materials testing engineering firm. Tierra can provide a complete range of geotechnical engineering services. Our organization helps the construction and long-term performance risks associated with subsurface conditions. These services include planning, field and laboratory programs, design recommendations, quality control, and instrumentation and performance studies.

HUSS DRILLING, INC.
Production Well Drilling
35920 State Road 52
Dade City, FL 33525

Huss Drilling was formed in 1990 with the mission to provide geologists, engineers and environmental scientists quality Florida drilling services, including environmental, geotechnical, and exploration drilling. Their Florida drilling services are completed with rigs capable of turning hollow stem augers and mud rotary capabilities to twenty-four inches in diameter, operated by OSHA-trained crews. The Florida exploration drilling operations personnel have extensive experience dealing with Karst geologic formations in Florida and keep the tooling necessary to complete projects on time through reverse air, wireline coring, and water resource investigations under budget and with a high percentage of core recovery.

YOUNGQUIST BROTHERS, LLC
Injection Well Drilling
15465 Pine Ridge Road
Fort Myers, FL 33908

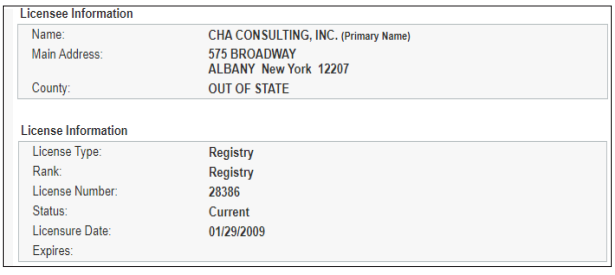
Youngquist Brothers (YB) was originally formed by Tim Youngquist and Harvey Youngquist, Sr., in March 1977. YB specializes in the drilling and testing of UIC-regulated Class V ASR, MAR, and Class I Injection wells. Over the last 30+ years, YB has completed the vast majority of major UIC-regulated wells in Florida. YB developed vertical integration in all facets of construction and testing to control, organize and expedite their work. Supported by a staff of close to 200 employees, their 32-acre headquarters in Fort Myers is home to a full-service manufacturing and fabrication facility complete with CNC lathes and milling machines.

Business and/or Individual Licenses

Copies of firm Florida professional licenses have been provided on the following pages. Individual Florida professional license numbers can be found within the resume information in Sections 2 and 3.

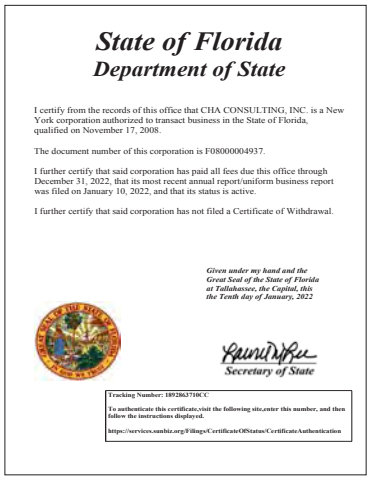
Note: *FDBPR stopped issuing certificates in 2020.*

CHA CONSULTING, INC.
CHA's license number is 28386.



Licensee Information	
Name:	CHA CONSULTING, INC. (Primary Name)
Main Address:	575 BROADWAY ALBANY New York 12207
County:	OUT OF STATE

License Information	
License Type:	Registry
Rank:	Registry
License Number:	28386
Status:	Current
Licensure Date:	01/29/2009
Expires:	



State of Florida
Department of State

I certify from the records of this office that CHA CONSULTING, INC. is a New York corporation authorized to transact business in the State of Florida, qualified on November 17, 2008.

The document number of this corporation is F08000004937.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 10, 2022, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Tenth day of January, 2022

Secretary of State

Tracking Number: 1892863710CC

To authenticate this certificate, visit the following site, enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

ARDURRA GROUP, INC.

Ardurra's license number is 2610.



LICENSEE DETAILS — 1:15:42 PM 3/1/2023

Licensee Information

Name:	ARDURRA GROUP, INC. (Primary Name)
Main Address:	4921 MEMORIAL HIGHWAY SUITE 300 TAMPA Florida 33634
County:	HILLSBOROUGH

License Information

License Type:	Engineering Business Registry
Rank:	Registry
License Number:	2610
Status:	Current
Licensure Date:	01/20/1978
Expires:	

APPLIED SCIENCES CONSULTING, INC.

Applied Sciences' license number is 26527.



LICENSEE DETAILS — 1:22:31 PM 3/1/2023

Licensee Information

Name:	APPLIED SCIENCES CONSULTING, INC. (Primary Name)
Main Address:	1000 N. ASHLEY DRIVE, SUITE 500 TAMPA Florida 33602
County:	HILLSBOROUGH

License Information

License Type:	Engineering Business Registry
Rank:	Registry
License Number:	26527
Status:	Current
Licensure Date:	08/19/2005
Expires:	

WATER SCIENCE ASSOCIATES, INC.

Water Science's license number is 30437.



LICENSEE DETAILS — 1:34:25 PM 3/1/2023

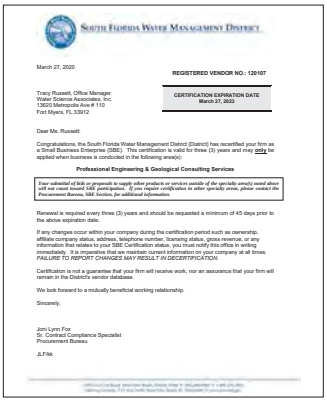
Licensee Information

Name:	WATER SCIENCE ASSOCIATES, INC. (Primary Name)
Main Address:	13620 METROPOLIS AVENUE SUITE 110 FORT MYERS Florida 33912
County:	LEE

License Information

License Type:	Engineering Business Registry
Rank:	Registry
License Number:	30437
Status:	Current
Licensure Date:	09/20/2013
Expires:	

Water Science is a registered **SBE** *with the SFWMD.*



South Florida Water Management District

March 27, 2020

REGISTERED VENDOR NO.: 126107

CERTIFICATION EXPIRATION DATE
March 27, 2023

Tracy Russell, Office Manager
Water Science Associates, Inc.
13620 Metropolis Ave # 110
Fort Myers, FL 33912

Dear Ms. Russell:

Congratulations, the South Florida Water Management District (District) has recertified your firm as a Small Business Enterprise (SBE). This certification is valid for three (3) years and may only be applied when business is conducted in the following area(s):

Professional Engineering & Geological Consulting Services

Your submittal of bids or proposals to supply other products or services outside of the specialty area(s) noted above will not count toward SBE participation. If your require certification in other specialty areas, please contact the Procurement Bureau, SBE Section, for additional information.

Renewal is required every three (3) years and should be requested a minimum of 45 days prior to the above expiration date.

If any changes occur within your company during the certification period such as ownership, affiliate company status, address, telephone number, licensing status, gross revenue, or any information that relates to your SBE Certification status, you must notify this office in writing immediately. It is imperative that we maintain current information on your company at all times. *FAILURE TO REPORT CHANGES MAY RESULT IN DECERTIFICATION.*

Certification is not a guarantee that your firm will receive work, nor an assurance that your firm will remain in the District's vendor database.

We look forward to a mutually beneficial working relationship.

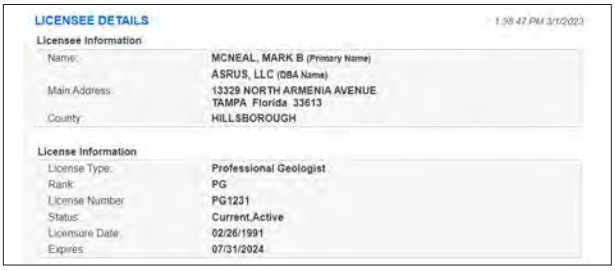
Sincerely,

Joni Lynn Fox
Sr. Contract Compliance Specialist
Procurement Bureau

JLF/kk

ASRUS, LLC

ASRus' license number is PG1231.



LICENSEE DETAILS — 1:38:47 PM 3/1/2023

Licensee Information

Name:	MCNEAL, MARK B (Primary Name) ASRUS, LLC (DBA Name)
Main Address:	13329 NORTH ARMENIA AVENUE TAMPA Florida 33613
County:	HILLSBOROUGH

License Information

License Type:	Professional Geologist
Rank:	PG
License Number:	PG1231
Status:	Current,Active
Licensure Date:	02/26/1991
Expires:	07/31/2024

EMI CONSULTING SPECIALTIES, INC.

EMI's license number is 6160.



LICENSEE DETAILS — 1:41:21 PM 3/1/2023

Licensee Information

Name:	EMI CONSULTING SPECIALTIES, INC. (Primary Name)
Main Address:	5742 RIVER BED RD GROVELAND Florida 34736
County:	LAKE

License Information

License Type:	Engineering Business Registry
Rank:	Registry
License Number:	6160
Status:	Current
Licensure Date:	02/11/1992
Expires:	

WEKIVA ENGINEERING, LLC

Wekiva's license number is 31920.



LICENSEE DETAILS — 1:42:14 PM 3/1/2023

Licensee Information

Name:	WEKIVA ENGINEERING, LLC (Primary Name)
Main Address:	711 ORLANDO AVE STE A WINTER PARK Florida 32789
County:	ORANGE

License Information

License Type:	Engineering Business Registry
Rank:	Registry
License Number:	31920
Status:	Current
Licensure Date:	12/07/2016
Expires:	

TIERRA, INC.

Tierra's license number is 6486.



LICENSEE DETAILS — 1:43:29 PM 3/1/2023

Licensee Information

Name:	TIERRA, INC. (Primary Name)
Main Address:	7351 TEMPLE TERRACE HWY TAMPA Florida 33637
County:	HILLSBOROUGH

License Information

License Type:	Engineering Business Registry
Rank:	Registry
License Number:	6486
Status:	Current
Licensure Date:	02/17/1993
Expires:	

Tierra is a registered **MBE** *with the State of Florida.*



State of Florida

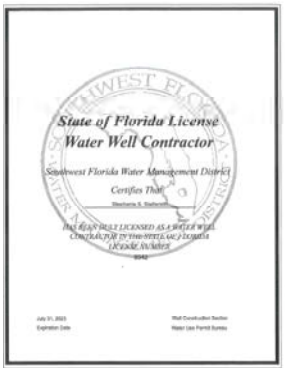
Minority Business Certification

Tierra, Inc.

08/30/2021 08/30/2023

HUSS DRILLING, INC.

Huss Drilling's State of Florida Water Well Contractor license number is 9342.



State of Florida License

Water Well Contractor

Southwest Florida Water Management District

Certifies That

YOUNGQUIST BROTHERS, LLC

Youngquist Brothers' license number is CGC1517866.



LICENSEE DETAILS — 1:56:37 PM 3/1/2023

Licensee Information

Name:	YOUNGQUIST, HARVEY BRUCE JR (Primary Name)
	YOUNGQUIST BROTHERS INC (DBA Name)
Main Address:	15465 PINE RIDGE RD FORT MYERS Florida 33908
County:	LEE
License Location:	15465 PINE RIDGE ROAD FORT MYERS FL 33908
County:	LEE

License Information

License Type:	Certified General Contractor
Rank:	Cert General
License Number:	CGC1517866
Status:	Current,Active
Licensure Date:	09/28/2009

Disclosure of Authority Customer Representations

CHA CONSULTING, INC.

CHA is currently providing engineering design and construction management services to the City of North Port. CHA does not currently represent Charlotte, DeSoto, Manatee, or Sarasota counties in any way.

ARDURRA GROUP, INC.

Ardurra holds active utilities general engineering service contracts with Charlotte County, under which they have been awarded only one project upgrading the headworks at Charlotte County's Rotonda Wastewater Treatment Plant and a utilities general engineering agreement with the City of North Port. Ardurra has been selected for a Utilities General Engineering Services contract with Manatee County, which has not been executed yet. They are also completing a wastewater lift station project for Sarasota County awarded under a now-expired General Utilities Engineering contract, a park improvement project awarded under a now-expired General Facilities Engineering contract, and the Pump Station 3 and Transmission Main project awarded under a stand-alone contract. They do not represent DeSoto County in any way.

APPLIED SCIENCES CONSULTING, INC.

Applied Science currently holds a general services contract with Manatee County, but has no active work orders. Applied Science does not currently represent Charlotte, DeSoto, or Sarasota counties or the City of North Port in any way.

WATER SCIENCE ASSOCIATES, INC.

Water Science does not currently represent any of the Authority's Customers.

ASRUS, LLC

ASRus currently has a prime contract with Manatee County to install the Piney Point injection well and has other subcontracts to assist with hydrogeologic work for the County. They are currently a subcontractor to an engineering firm to provide injection well services for Sarasota County. ASRus has also recently held subcontracts with engineering firms to perform hydrogeologic work for Charlotte County and the City of North Port.

EMI CONSULTING SPECIALTIES, INC.

EMI is currently under contract with Charlotte County to provide electrical pump

station service, and is providing services as a subconsultant to CHA on the City of North Port's projects.

WEKIVA ENGINEERING, LLC

Wekiva does not currently directly represent any of the Authority's Customers. Wekiva is providing services as a subconsultant to CHA on the City of North Port's projects.

TIERRA, INC.

Tierra currently provides geotechnical engineering, environmental consulting and construction materials testing services as a prime consultant (holding active contracts with) the City of North Port Utilities Department, the City of Sarasota, Sarasota County and Manatee County School Board.

HUSS DRILLING, INC.

Huss Drilling does not currently represent any of the Authority's Customers.

YOUNGQUIST BROTHERS, LLC

Youngquist Brothers does not currently represent any of the Authority's Customers.

Disclosure of Litigation

CHA nor any of our selected subconsultants is involved in any or have any impending litigation with or against any of the Authority Customers, including Charlotte, DeSoto, Manatee, or Sarasota counties, or the City of North Port, either directly or retained for testimony and expertise on behalf of any other entity in litigation against the Authority or any of its Customers.

SECTION 1. PROJECT MANAGER & MANAGEMENT



C. Robert Reiss, PhD, PE

Project Manager

Robert has been involved with water, wastewater transmission and distribution system projects for his entire career. This has included planning, design, permitting, and construction services. In addition, he brings specialized expertise in potable water distribution system water quality. Robert has completed evaluations of red water complaints, nitrification, chloramination optimization, lead and copper rule compliance, water age, and similar considerations. Representative project experience includes:

City of Vero Beach, FL, RO WTP Design Services. Principal-in-charge for the design and construction management for expanding the 2.0 MGD RO treatment facilities to 4.5 MGD. Provided complete design and specification preparation at the typical 60%, 90%, and 100% completion levels. The scope of services included efforts necessary to design, permit, and bid the expansion of the RO WTP. In addition, engineering services and limited construction management services were provided during construction.

City of Vero Beach, FL, Finished Water Post Stabilization Evaluation. QA/QC for an evaluation of finished water stability following the expansion of the city's RO WTP and reduced blending with lime-softened water. Water chemistry was evaluated using the RTW stoichiometry model.

St. Lucie West Services District, FL, RO WTP Expansion. Quality assurance/quality control (QA/QC) officer for the design of a 3.4 MGD expansion of a low-pressure RO (LPRO) WTP.

City of Port St. Lucie, FL, Replacement of Concentrate Pipe at the Prineville RO WTF. Principal-in-charge for improvements to the RO facility, including demolishing a post-treatment structure and designing the proposed standpipe and appurtenances, including air release valve (ARV), piping supports and instrumentation connections. Also provided construction inspection services.

City of Melbourne, FL, Distribution System Water Stability Study. Project manager for a water quality investigation to determine the root cause of an excessive number of red water complaints from customers. The project included the sampling and testing of 26 locations throughout the distribution system, investigating chloramination practices, nitrification, alkalinity demand, and Langelier Saturation Index/calcium carbonate precipitation potential (LSI/CCPP) levels in the distribution system. This study determined the presence of nitrification and decreases in LSI spatially throughout the system.

Tavistock Development Company, Osceola County, FL, Sunbridge WTP and WWTP. Principal-in-charge responsible for the pilot study, preliminary design, detailed design, permitting, and construction services for a new greenfield 1.0 MGD WTP using ozonation for hydrogen sulfide removal to supply drinking water to a new development community and a new greenfield 3.5 MGD WWTP to treat the domestic wastewater.

City of Clearwater, FL, Brackish Reverse Osmosis Water Treatment Plant #2. Project manager for the design of a new 6.25 MGD

Years of Experience
29

Education
University of Central Florida, FL, Ph.D., Environmental Engineering

University of Central Florida, FL, M.S.E., Environmental Engineering

University of Central Florida, FL, B.S.E., Environmental Engineering

University of Central Florida, FL, B.S.E., Civil Engineering

Registrations & Certifications
Professional Engineer - FL (#53794), CA, Bahamas

Memberships & Affiliations
American Water Works Association (AWWA)

American Membrane Technology Association

American Society of Civil Engineers

Bahamas Society of Engineers

Caribbean Desalination Association

Southeast Desalting Association

International Community Board, University of Central Florida

Reverse Osmosis Water Treatment Plant #2, with an approximate $30 million construction cost, intended to conserve water and produce high water quality from brackish and fresh groundwater. Brackish groundwater blended with concentrate from Reverse Osmosis Water Treatment Plant #1 is treated via reverse osmosis to reduce the salt concentration, and the 5.25 MGD of permeate is then ozonated to oxidize the sulfides. The freshwater is oxidized with chlorine, filtered to remove iron, and blended with the ozonated permeate. As the freshwater is hard and alkaline, blending the freshwater and permeate results in stable water after minimum post-treatment.

Seawater Reverse Osmosis Water Treatment, King Abdullah University, Saudi Arabia. Principal-in-charge and quality assurance/quality control (QA/QC) officer for design and specifications for a new 7 mgd seawater RO treatment plant, expandable to 14 mgd.

Reverse Osmosis Water Treatment Plant Value Engineering, Florida City, FL. Value engineering team member reviewing the 60% design of a 6 mgd brackish groundwater RO WTP for the Florida Keys Aqueduct Authority.

Concentrate Impacts Study, Australia. QA/QC officer for the study of environmental impacts of concentrate for the Perth Seawater Desalination Plant Two and the Sydney seawater RO plant.

Seawater Desalination Pilot Study Program Management, Austin, TX. Project principal for the oversight of three seawater pilot studies funded by the Texas Water Development Board.

Tampa Bay Water Desal I Design Retrofit, Tampa, FL. Principal-in-charge of permitting for design modifications of Tampa Bay Water's 25 mgd seawater RO WTP as part of the American Water/Pridesa team. Changes included the addition of coagulation, sedimentation, and diatomaceous earth filtration.

Surface Water Reverse Osmosis Feasibility Analysis, Tampa, FL. Project manager for a feasibility study and cost assessment of reverse osmosis treatment of 20 mgd of water from Sulfur Springs.

Groundwater Reverse Osmosis Pilot Study, West Jefferson, OH. Project principal for a pilot study of RO treatment of high-hardness groundwater to support a new WTP design.

Water Treatment Plant Design, Hollywood, FL. Performed process engineering and design QA/QC for a new NF WTP for the Seminole Tribe of Florida.

James E. Anderson Reverse Osmosis Pilot Evaluation and Concentrate Disposal Assessment, Port St. Lucie, FL. Water system engineering service project involved conducting a RO pilot evaluation of multiple alternative membranes to determine fouling potential, the acceptability of alternative membranes, compliance with water quality goals, and other criteria to ensure the adequacy of the proposed facility.

High Iron Concentrate Disposal Evaluation, Block Island, RI. Principal-in-charge for the evaluation of treatment and disposal options for an RO concentrate stream containing more than 50 mg/L of iron to nearshore marine waters in a resort town.

Reverse Osmosis Pilot Study and Concentrate Management Review, Tohopekaliga Water Authority, FL. Technical review of a pilot study plan of study and concentrate management options for development of the Harmony RO WTP.

System 3 Membrane Water Treatment Plant, Delray Beach, FL. Project engineer for the design of an 8 mgd membrane softening WTP for the Palm Beach County Water Utilities Department.

Membrane Pilot Study, Miramar, FL. Pilot testing to support the design of a 12 mgd membrane softening WTP. Provided technical review and development of design criteria.

Prineville 6.0 mgd Low-Pressure Reverse Osmosis Expansion, Port St. Lucie, FL. Provided management and technical expertise associated with a 6.0 mgd LPRO construction contract to expand the treatment facility.

Project Management Approach

CHA's experts provide professional, comprehensive engineering services throughout Florida. Our multi-disciplined team brings the capabilities of a broad spectrum of perspectives and extensive planning backgrounds to each assignment, including:

- Study and preliminary design phase
- Final design phase
- Bidding phase
- Construction phase
- Engineering studies

CHA will provide the following services on the Authority's project:

Snapshot

1. UNDERSTANDING OF SCOPE OF PROJECT

A successful project begins with the complete understanding of the scope of the project.

2. DEVELOPMENT OF A WORK PLAN

CHA will develop a project- specific work plan which defines the project goals and resources required to complete the project within the schedule.

3. INITIAL PROJECT MEETING

The meeting will outline a clear project understanding, set project goals, and define key project milestones.

4. PROJECT EXECUTION

Once the specific project design approach has been completed and approved, work would commence upon the notice to proceed.

5. QUALITY CONTROL

We will adhere to a QA/QC plan to maintain the standards for technical performance and accuracy of all engineering reports, design drawings and specifications.

Project Management

An established and practical project design approach is necessary to establish and meet project requirements, schedule and budget. Our approach includes:

- Meeting with the Authority to develop a detailed scope of work
- Developing a detailed fee breakdown by Task and project-specific critical path schedule
- Identifying and engaging the technical resources
- Developing a project-specific QA/QC plan

Once the scope and fee have been completed and approved by the Authority, work will commence with the notice to proceed (NTP). Project cost, schedule, and quality control will be managed by:

- Frequent internal project progress meetings
- Regular communication between the project manager, client service manager, and the Authority
- Regular project progress reports submitted to the Authority
- The completion and submission of deliverables at project milestones
- Strict adherence to the project QA/QC plan

Extensive Quality Control

We take project management and quality control very seriously. Our project managers use three comprehensive project manuals (developed internally at CHA) to develop specific project management and QA/QC plans for each assignment: The Project Management Manual, the QA/QC Manual, and the Total Technical Quality Control (TTQC) Manual.



Client Coordination

The Authority's team will be an integral part of CHA's quality assurance program. By participating in project meetings, communicating clearly and often,

and providing timely and thorough reviews of deliverables, the Authority and CHA will achieve success. CHA will maintain open communication with the Authority throughout the project.

Schedule Control



The project team has established procedures and software to continually compare project details and available resources.

Team members will hold regular meetings to determine the percentage of project tasks completed and the budget amount exhausted for each milestone. If a deviation should occur from the schedule or budget, project needs will be re-assessed and discussed to bring the project back on track.

We are well known for our consistent, on-time performance and quality assurance record for major clients in both the public and private sectors. Our design service strategy is always based on client focus and process-oriented thinking to identify and address project issues quickly and cost-effectively.

Given the firm-wide workforce of over 1,500 people, we do not foresee difficulties meeting your needs. We have the resources to make sure we meet your project schedule.

Cost Control



CHA's cost control method begins with developing a detailed scope of work, fee proposal, and project-specific work plan to determine project costs. We accomplish this through proactive, upfront communication during the project's scoping phase.

Once our team and the Authority have agreed on the project costs and work plan, CHA's assigned project manager will develop forecasted project expenditures depicted graphically. This forecast serves as a baseline to monitor the schedule and expenditure and keep the project on track. This dashboard system gives the project team access to information that can be used to quickly and accurately monitor and assess project status to control schedule and budget proactively.

The objectives of a disciplined, cost-control program are two-fold:

- Maintain control over costs throughout the design development process
- Prevent surprises when construction bids are opened

Specific Experience of the Project Manager

Serving as the project manager, C. Robert Reiss, PhD, PE, will be the primary day-to-day point-of-contact and will have responsibility for staying on the "same page" with Authority staff while providing direction and guidance to the project engineers throughout the life of this project. In this role, Robert will monitor and periodically confirm with you that CHA is meeting expectations with regard to scope, schedule, budget, quality, and your overall satisfaction with our services. Robert will be responsible for your satisfaction and verifying you receive responsive, quality services. As such, Robert will verify adequate resources are available to effectively facilitate this project. Through the assignment of top-notch experts in their respective fields, you can be assured your project will be delivered on time and within budget, and you receive quality deliverables.

Robert holds four engineering degrees from the University of Central Florida, including a PhD in Environmental Engineering. Relative to this RFQ, Robert has served as principal and project manager on numerous planning, design, and construction projects for water, wastewater, and reclaimed water utility-related services, ranging from small-scale technical reviews to larger multi-discipline design and construction, with particular technical expertise in water quality and treatment. **Robert served as project manager or principal-in-charge on all of CHA's projects listed in Section 2.** With his technical background in water treatment, Robert has authored more than 100 publications and presentations on membrane treatment and potable water quality. Robert has the experience to develop high-quality, innovative, and implementable solutions that meet the utility department's technical needs and budgetary constraints.

Robert has successsfully managed large teams encompassing multiple firms, personnel, and disciplines. His leadership, strong communication skills, and attention to detail enable our team to efficiently and effectively manage all tasks under this detailed project. With Robert leading the charge, our team will provide the Authority with the highest quality service while meeting schedule and budget expectations.

SECTION 2. CONSULTANT TEAM'S ENGINEERING EXPERIENCE

Resumes of Key Personnel - Engineering Experience



CHRIS KUZLER, PE - Assistant Project Manager and QA/QC
Education: Adelphi University, NY, M.S., Business Administration; Polytechnic Institute of New York, NY, B.S., Mechanical Engineering **|** ***Registrations/Certifications:*** Professional Engineer - FL (#45532), NY **|** ***Firm and Location:*** Ardurra Group, Tampa

Chris brings 37 years of engineering experience—from transmission mains to distribution systems, sewer systems, lift stations, water reclamation and water treatment facility improvements, and storage and pumping facilities. He has been directly involved with the execution of every local utility and solid waste engineering project Ardurra has completed since joining Ardurra in 1992 and has been working with the Authority since 2008. Representative project experience includes:

- DeSoto County, FL, Peace River Facility Capacity Optimization Study
- City of Dunedin, FL, Master Plan Studies, 6.0 MGD WWTP and 9.5 MGD RO Water Plant
- City of Dunedin, FL, Miscellaneous Wellfield Improvements
- City of Tampa, FL, Tampa General Hospital Emergency Reverse Osmosis Treatment Systems



GLENN DUNKELBERGER, PE, BCEE - Technical Advisor
Education: Ohio State University, OH, M.S. Environmental Engineering; Ohio State University, OH, B.S. Civil Engineering **|** ***Registrations/Certifications:*** Professional Engineer - FL (#38310), AR, GA, MS, NJ, NY, OH, OK, PA, SC, TX, CA **|** ***Firm and Location:*** CHA, Remote/FL

Glenn has 45 years of experience in the civil/environmental engineering and construction field. Experience includes planning, pilot studies, process operations, detailed design, design-build, and construction management. Areas of relevant technical expertise are water, wastewater, and reuse treatment and advanced process technology. Representative project experience includes:

- City of Vero Beach, FL, Reverse Osmosis Water Treatment Plant
- Volusia County, FL, Spruce Creek Reverse Osmosis Water Treatment Plant Improvements
- City of Clearwater, FL, Brackish Reverse Osmosis Water Treatment Plant #2
- City of Bowling Green, OH, Integrated Microfiltration/Reverse Osmosis Water Treatment Plant Addition



J. RICHARD VOORHEES, PE, BCEE - Quality Manager
Education: Auburn University, AL, M.S., Civil/Environmental Engineering; Auburn University, AL, B.S., Civil Engineering **|** ***Registrations/Certifications:*** Professional Engineer - FL (# 25385); Board-certified Environmental Engineer **|** ***Firm and Location:*** CHA, Winter Springs

Rich has over 45 years of experience and is highly qualified in the planning, design, and construction of water and wastewater projects, from pipelines to treatment and pumping facilities. Rich is a board-certified environmental engineer and is recognized in Florida as a technology leader in water and wastewater conveyance and treatment. He has served as the project or design manager for the design and construction of multi-million-dollar water and wastewater facility projects and has previous experience as a general contractor for water and wastewater facility construction. With this experience, Rich has been assigned the construction administration of large and complex projects requiring contract resolution between the owner and the contractor. Representative project experience includes:

- City of Ormond Beach, FL, Water Treatment Plant Upgrade
- City of Ormond Beach, FL, Water Treatment Plant Sodium Hypochlorite Generator and Lime Slaker Rehabilitation and Replacement
- City Melbourne/City of Cocoa, FL, Pineda Causeway Water Transmission Mains



THOMAS BURKE, PE - SWFWMD Liaison
Education: Illinois Institute of Technology, IL, M.S., Environmental Engineering; Illinois Institute of Technology, IL, B.S., Civil Engineering **|** ***Registrations/ Certifications:*** Professional Engineer - FL (#58566), IL **|** ***Firm and Location:*** Applied Sciences, Tampa

Tom is a registered professional civil engineer with over 50 years of experience, principally in the planning, design, construction and operation of municipal utility systems. Tom has managed engineering services, including studies, designs, construction and startup of water, wastewater and reclaimed water conveyance and treatment facilities to serve communities with populations ranging from 10,000 to 5,000,000 people. His project experience ranges from those with relatively small (<$100,000) capital budget amounts to complex, multi-faceted projects with capital budgets reaching toward $500 million. **He recently served as a Chief Professional Engineer with the Southwest Florida Water Management District (SWFWMD). In that capacity, he functioned as an in-house consultant facilitating other staff engineers and scientists in project planning and administration. Mr. Burke was the Moderator of the District's Subject Matter Expert Team.** Representative project experience includes:

- SWFWMD, FL, Chief Professional Engineer facilitating staff engineers and scientists in project planning and administration



ARNAB HANRA, PE - Water Treatment Process and Design
Education: Indian School of Business, Hyderabad, India, PGDM (MBA), Marketing; National Institute of Technology, Kurukshetra, India, B.Tech, Civil Engineering; University of Cincinnati, OH, Graduate Coursework and Research, Environmental Engineering **|** ***Registrations/Certifications:*** Professional Engineer - FL (# 90897), TX **|** ***Firm and Location:*** CHA, Tampa

Arnab has 21 years of experience in process-mechanical design and engineering management of water and wastewater projects in EPC/EP/OEM. He establishes the process-mechanical-control foundations of water and wastewater treatment facilities and engages with cross-functional engineering teams to develop design packages for municipal and industrial applications. Arnab has expertise in process calculations/simulations, process flow diagrams (PFD) and mass balances, bench/pilot-scale studies, piping and instrumentation diagrams (P&IDs), basis of design reports, plant hydraulics, value engineering, plant operating cost estimates, plant control philosophy, HAZOP evaluation, plant layouts, 3D modeling guidance, sizing/selection of plant equipment, and assisting with plant start-up and commissioning. Representative project experience includes:

- City of Tampa, Tampa Electric Company 2.4 MGD Brackish Water RO Skids
- City of Palm Coast, FL, 1.8 MGD Zero Liquid Discharge Plant
- FKAA, FL, 6.5 MGD Brackish Water RO Floridan Aquifer Water Softening Plant



BRUCE JENSEN, CEP - Cost Estimating
Education: Rensselaer Polytechnic Institute, NY, B.S., Civil Engineering **|** ***Registrations/Certifications:*** AACE Certified Estimating Professional (CEP) **|** ***Firm and Location:*** CHA, Remote, NC

Bruce has over more than nine years of experience as a heavy civil/commercial/ residential construction cost estimator. He has specialized experience in wastewater treatment plants, water treatment plants, pump stations, pipeline, subdivisions, and transportation. Representative project experience includes:

- City of Albany, NY, Albany Riverfront Pump Station
- Bethlehem, PA, Lehigh University Center North Plinth
- Tarrytown, NY, Hackley School New Performing Arts Center
- Brookline, MA, Driscoll School
- Tisbury, MA, Tisbury Elementary School Renovations



YUE SUN, PE, BCEE - Water Treatment Process
Education: Virginia Tech, Blacksburg, VA, M.S., Environmental Engineering; Tongji University, Shanghai, China, M.S., Environmental Engineering; Tongji University, Shanghai, China, B.S., Environmental Engineering **|** ***Registrations/Certifications:*** Professional Engineer - FL (#86005), TX; Board-certified Environmental Engineer **|** ***Firm and Location:*** Houston, TX

Yue has 24 years' experience in water systems engineering. Her forte is water facility design, water quality monitoring and analysis, and water treatment bench scale and pilot studies. She specializes in public water system monitoring, source water and distribution water quality control and management. She also provides recommendations and design for system changes to improve water quality. Representative project experience includes:

- Desoto County, FL, Peace River Facility Capacity Optimization Study
- West Fort Bend County, TX, 6 mgd Regional Membrane Surface Water Treatment Plant Preliminary Engineering Study
- City of Sugar Land, TX, Sugar Land 9 mgd Surface Water Membrane Treatment Plant Conceptual Design and Evaluation Study
- City of Sugar Land, TX, Sugar Land Surface Water Membrane Treatment Plant



MARK WORSHAM, PE - Water Treatment Design
Education: Virginia Polytechnic Institute and State University, VA, B.S., Civil Engineering; Virginia Polytechnic Institute and State University, VA, B.S., Agricultural Engineering **|** ***Registrations/Certifications:*** Professional Engineer - FL (# 90897), VA **|** ***Firm and Location:*** CHA, Winter Springs

Mark has over 34 years of experience in the construction of utility and building projects and project management for municipal, industrial and governmental clients. He has expertise in the testing and commissioning of building, mechanical, electrical, and instrumentation/control systems and designing well systems, water treatment systems, pumping systems, chemical feed systems, and storage/distribution systems. He has performed engineering relating to the operation of over 130 separate water supply systems and several wastewater systems, including pump replacement design, treatment system modification/ design and distribution system program management, and regulatory compliance of the systems. Representative project experience includes:

- City of Port St. Lucie, FL, Rangeline RO WTP
- Seminole County, FL, Southeast Regional WTP Treatment Improvements Design
- St. Lucie West Services District, St. Lucie County, FL, RO WTP Redundancy and Expansion



JOE GREENBURG, PE - Existing PRF Modifications
Education: Clemson University, SC, M.S., Environmental Systems Engineering; The Citadel, SC, B.S., Civil Engineering **|** ***Registrations/Certifications:*** Professional Engineer - GA, SC **|** ***Firm and Location:*** Ardurra, Anderson, SC

Joe has 36 years of municipal and industrial water and wastewater treatment experience. He brings a deep-bench of engineering experience in expansions and upgrades to surface water treatment plants to increase plant capacity and operating efficiencies. His designs have included modifications to filter and control systems to provide high-rate filtration, raw water pump replacements and new raw water pump stations and chemical feed systems. Representative project experience includes:

- Peace River Facility Capacity Optimization Study, Desoto County, FL
- Pioneer Rural Water, Westminster, SC, Pioneer Lake Hartwell WTP
- City of Pearland, TX, Pearland Water Treatment Plant Upgrades
- City of Pflugerville, TX, Water Treatment Plant Expansion



EMILY WILLIAMSON, PE - Site/Civil
Education: University of Florida, FL, B.S.E., Civil Engineering **|** ***Registrations and Certifications:*** Professional Engineer - FL (# 93264) **|** ***Firm and Location:*** CHA, Tampa

Emily is an engineer with eight years of experience in planning, permitting, design, and construction for potable water, wastewater, and reclaimed water projects throughout Florida. She has contributed to various projects, including asset management, infrastructure condition assessment, hydraulic modeling, distribution/collection system management and optimization, and infiltration and inflow (I&I) studies. Representative project experience includes:

- Pinellas County, FL, Pump Station Regulatory Evaluation
- City of Lakeland, FL, Capacity, Management, Operations, and Maintenance (CMOM) Update
- Pinellas County, FL, Force Main Condition Assessments
- Pinellas County, FL, Sanitary Sewer Flow Monitoring - Zone 16 (Gulfport)



NICOLE LYNN, PE - Site/Civil
Education: University of South Florida, B.S., Civil Engineering **|** ***Registrations/ Certifications:*** Professional Engineer - FL (#71382), TX **|** ***Firm and Location:*** Ardurra, Tampa

Nicole Lynn has 18 years of civil engineering experience. She performs civil engineering, site design and associated utility infrastructure site designs for Ardurra's public works, utilities, and private sector projects. Her civil/site designs typically include the design of new utilities such as water, sewer, stormwater and drainage systems and often times lift stations. Nicole's project portfolio includes civil site design for roadways, municipal facilities, residential, commercial and institutional buildings. Representative project experience includes:

- City of Tampa, FL, McKay Bay Solid Waste Transfer Station CMAR
- City of Clearwater, FL, Clearwater Solid Waste Transfer Station CMAR
- Hillsborough County, FL, Verizon Central Energy Plant at Telecom Park
- City of Tampa, FL, Westshore Marina District Bridge Street



WESTON HAGGEN, PE, DBIA, ENV SP, PMP - Conveyance
Education: University of Central Florida, FL, M.S.E. in Civil Engineering University of Central Florida, FL, B.S.E. in Civil Engineering **|** ***Registrations/ Certifications:*** Professional Engineer - FL (#77777); FDOT, MOT Intermediate NASSCO PACP/MACP/LACP Certification; Design-Build Professional Certification (DBIA); Envision Sustainability Professional, Certification (ENV SP); Project Management Professional (PMP) **|** ***Firm and Location:*** CHA, Tampa

Weston has 14 years of experience in water, wastewater, and reclaimed water. His expertise includes water quality hydraulic modeling, master planning, pipeline design, lift station design, potable water quality improvement, unidirectional flushing (UDF), I&I studies, construction administration, preliminary design of wastewater and water plants, regulatory permitting, water treatment pilot studies, feasibility studies, report writing, and data management, including geographic information systems (GIS) for a variety of municipal and government projects in water and wastewater treatment. Representative project experience includes:

- City of Clearwater, FL, Brackish RO WTP #2 and Associated Transmission Mains
- Hillsborough County, FL, Delwood Super Station Design-Build
- City of Clearwater, FL, Water and Reclaimed Water Program Management
- Pinellas County, FL, Force Main Condition Assessment from Pennsylvania Avenue and Eighth Street to the Dunn WRF
- SSNOCWTA, Seminole County, FL, Eagle Circle Force Main Replacement



SCOTT HOXWORTH, PE - Conveyance
Education: University of Central Florida, FL, M.S., Environmental Engineering; University of Central Florida, FL, B.S., Environmental Engineering **|** ***Registrations and Certifications:*** Professional Engineer - FL (# 58643) **|** ***Firm and Location:*** CHA, Tampa

Scott has 23 years of experience in water, wastewater, and reclaimed water fields. His expertise encompasses the design, construction, startup, and operation of water and WWTFs; water, wastewater, and reclaimed water pipelines; stormwater systems; and pump/lift stations. Scott also has expertise in pilot-scale membrane water treatment systems and pilot-scale and full-scale groundwater remediation systems, solid waste with landfill closure design, construction oversight, and permitting. Representative project experience includes:

- City of Clearwater, FL, Brackish RO WTP #2 and Associated Transmission Mains
- City of Port St. Lucie, FL, Rangeline Transmission Mains
- City of Melbourne, FL, Pineda Causeway Water Transmission Main Design
- Hillsborough County, FL, Delwood Super Station Design-Build



ALLEN DETHLOFF, PE - Pump Stations
Education: University of Florida, FL, B.S., Civil Engineering, Construction Management **|** ***Registrations/Certifications:*** Professional Engineer - FL (# 66382) **|** ***Firm and Location:*** CHA, Tampa

Allen offers a wide range of experience in civil engineering, process mechanical engineering, permitting, and construction management. He brings 20 years of experience in preliminary design, final design, permitting, bidding, construction administration, and managing multidisciplinary engineering teams for pipelines (including various trenchless technologies), sanitary sewer collection systems, pumping stations, water, wastewater facility improvement, chemical feed systems, and stormwater management projects. Representative project experience includes:

- Tampa Bay Water, FL, Brandon Booster Station
- City of Clearwater, FL, Water and Reclaimed Water Program Management
- City of Tampa, FL, Morris Bridge Pump Station



LOC TRUONG, PE - Pump Stations
Education: Rensselaer Polytechnic Institute, NY, B.S., Chemical Engineering **|** ***Registrations/Certifications:*** Professional Engineer - FL (#65709); Drinking Water Treatment Plant Operator Class C, FL No. 0014398; Drinking Water Treatment Plant Operator Class C IIA, NY **|** ***Firm and Location:*** Ardurra, Tampa

Loc has 20 years of water engineering experience and is a Florida licensed Professional Engineer and Water Treatment Plant Operator, bringing an operator's perspective of system-wide functionality to his designs. He has provided design, permitting and construction services for pipelines ranging from the smallest fitting on a residential service line to complex pipeline installations and rehabilitation of large booster stations. Loc has significant experience in designing large-capacity pump stations, large-diameter pipelines and trenchless installations along major roadways and crossing waterways. He offers hands-on "know-how" to keep facilities in operation throughout construction. Representative project experience includes:

- Pinellas County, FL, 30 MGD Logan Booster Pump Station Upgrade
- Pinellas County, FL, 100 MGD North Booster Pump Station Modifications
- Hillsborough County, FL, 50 MGD South County Potable Water Booster Pump Station Progressive Design-Build



EDWARD TALTON, PE - Hydraulic Modeling
Education: University of Florida, M.S.E., Environmental Engineering; University of Florida, FL, B.S.E., Environmental Engineering; University of Kentucky, KY, Hydraulic Surge Modeling Training **|** ***Registrations and Certifications:*** Professional Engineer - FL (# 66382) **|** ***Firm and Location:*** CHA, Winter Springs

Ed's 30+ years of experience and expertise in master planning and hydraulic/water quality modeling runs deep, having completed major master plans, water quality modeling/ calibration to mitigate nitrification, distribution operations optimizations, wastewater model calibrations, and risk-based asset prioritization. His publications include a December 2011 Florida Water Resource Journal article on a water quality application to help utilities better utilize available SCADA, quality, and modeling outputs. Ed has completed a comprehensive reuse master plan and wastewater force main hydraulic model (1,500 miles of pipe and more than 900 pump stations) for the Miami-Dade Water and Sewer Department (MDWASD) and master planning and hydraulic modeling services for Orange County Utilities, Seminole County, Brevard County, and the cities of Tampa, Lakeland, St. Petersburg, Port St. Lucie, St. Cloud, West Palm Beach, Orange City, and Ocoee. Representative project experience includes:

- City of St. Cloud, FL, Water, Wastewater and Reuse Master Plan and Hydraulic Modeling
- Orange County Utilities, Orange County, FL, Continuing Hydraulic Modeling Services
- City of Altamonte Springs, FL, Potable and Reclaimed Water Systems Master Plan and Hydraulic Model Update
- City of Ocoee, FL, Consumer Court Lift Station Hydraulic Modeling and Permitting



PARSA PEZESHK, PHD, PE - Hydraulic Modeling
Education: University of Memphis, TN, Ph.D., Environmental Engineering; University of Memphis, TN, M.Sc., Environmental Engineering; Azad University, Tehran, Iran, B.Sc., Applied Chemistry **|** ***Registrations/Certifications:*** Professional Engineer - FL (# 91687), SC **|** ***Firm and Location:*** CHA, Tampa

Parsa has over six years of experience in environmental engineering, working primarily on modeling hydraulic and wastewater treatment processes. Representative project experience includes:

- City of Clearwater, FL, Water and Reclaimed Water Program Management
- City of Clearwater, FL, Ft. Harrison Avenue Hydraulic Evaluation
- Polk County Utilities, FL, Northeast Regional Utility Service Area (NERUSA) Utility Master Plan Update 2022
- Tampa Bay Water, Hillsborough County, FL, Brandon Booster Station



BRIAN SKIDMORE, PE - Ecological
Education: University of South Florida, FL, B.S., Biology **|** ***Registrations/ Certifications:*** Authorized Gopher Tortoise Agent GTA-12-00016 **|** ***Firm and Location:*** Ardurra, Tampa

Brian has 32 years of experience in the ecological and environmental science disciplines and has been with Ardurra for 28 years. His extensive project experience includes jurisdictional wetland delineation and listed species assessments, establishing wetland water level elevations, DRI-level wildlife surveys, stormwater retrofit, wetland and upland ecology studies, ecosystem restoration design and regulatory agency permitting and compliance. Brian has excellent working relationships with local permitting agencies. He is knowledgeable about the applicable regulations, which will support the successful and timely acquisition of the necessary permits and swift resolution of any regulatory issues. Representative project experience includes:

- Peace River Manasota Regional Water Supply Authority, FL, Phase 3C Regional Transmission Main and Pump Station Design-Build
- Peace River Manasota Regional Water Supply Authority Phase 2 Regional Transmission Main and Pump Station
- Tampa Bay Water Regional Surface Water Treatment Plant Wetland Delineations and Listed Species Assessments

Project Examples - Engineering Experience



BRACKISH REVERSE OSMOSIS WATER TREATMENT PLANT #2
City of Clearwater, FL *(Reference Project #1)*

CHA assisted in designing and constructing the City of Clearwater's $40 million 6.25 MGD Reverse Osmosis Water Treatment Plant (RO WTP) No. 2 and raw water transmission mains. The project required permitting through local regulatory agencies, including the Florida Department of Environmental Protection, Pinellas County, Florida Department of Transportation, and U.S. Army Corps of Engineers (USACE).

The project's objectives were to conserve water, produce high water quality from brackish and fresh groundwater, and design a state-of-the-art RO facility. The plant's design incorporated two treatment trains. Brackish groundwater blended with the concentrate from RO WTP No. 1 is treated via RO to reduce the salt concentration. The 5.25 MGD of permeate is then ozonated to oxidize sulfide. Freshwater is oxidized with chlorine and filtered to remove iron, which is blended with the ozonated permeate. As the freshwater has a high hardness and alkalinity, blending the freshwater and permeate results in stable water after minimum post-treatment.

About 6.25 MGD of water is bulk purchased from Pinellas County via interconnects to Clearwater's system. Many of the wells have elevated total dissolved solids (TDS), sulfides, and iron. Raw water had to be piped to a treatment facility capable of removing TDS and iron before distribution to use this groundwater source. A network of more than 60,000 feet of new transmission main piping was required to transmit the raw water from the new wells to the RO WTP No. 2.

Client Contact: *Tracy Mercer, Director at time of project (currently employed with Town of Dundee); T: 863.370.2996; E: TMercer@townofdundee.com* **|** ***Personnel:*** *C.R. Reiss, G. Dunkelberger, M. Worsham, S. Hoxworth, E. Talton* **|** ***Start/End Dates:*** *2010 - 2015* **|** ***Budget:*** *$3.4M*



REVERSE OSMOSIS WATER TREATMENT FACILITY EXPANSION
City of Vero Beach, FL *(Reference Project #2)*

The City of Vero Beach needed to increase the capacity of its 3.3 MGD reverse osmosis water treatment facility. The reverse osmosis skid was rated at 2.0 MGD, and the treatment facility's capacity needed to be expanded to 4.5 MGD to improve the finished water quality and decrease the operation of the lime softening plant. **CHA** provided design, permitting, bidding, and construction management services.

Improving the reverse osmosis skid involved modifying the permeate header, adding valves and a flow meter to balance and control flows between Stage 1 and Stage 2, and installing piping associated with using five unused pressure vessels. Two 1.25 MGD reverse osmosis skids with high-pressure pumps and variable frequency drives were added. The skids were designed to be expandable to 2.0 MGD each by adding pressure vessels and connection piping to the different headers designed for 2.0 MGD. The aging sulfuric acid and scale inhibitor feed systems were replaced to accommodate increased chemical demands due to the addition of the two membrane skids.

Additional improvements included electrical upgrades, instrumentation and control modifications, additional programmable logic controllers and remote input/output panels, and the integration of the finished water quality stability measurement system. A spreadsheet-based software was developed and integrated into the SCADA system to predict key post-treatment water quality parameters based on measured water quality and determine the water quality in response to potential treatment operation changes.



Client Contact: *Robert Bolton, PE; Director, Water and Sewer Administration; T: 772.978.5220; E: rbolton@covb.org* **|** ***Personnel:*** *C.R. Reiss, G. Dunkelberger, J.R. Voorhees, M. Worsham, S. Hoxworth, E. Talton* **|** ***Start/End Dates:*** *2014 - 2018* **|** ***Budget:*** *$541K*



6.0 MGD MICROFILTRATION AND REVERSE OSMOSIS WATER TREATMENT PLANT ADDITION | City of Bowling Green, OH *(Reference Project #3)*

The City of Bowling Green contracted **CHA** to assist in expanding its WTP using an integrated membrane system (IMS) to treat reservoir water fed by the Maumee River. Integrating the RO membrane system into the WTP enabled blending finished plant water with a combination of integrated membrane treatment (MF/RO) and lime softening for a permitted flow of 11 MGD to meet Ohio Environmental Protection Agency (OEPA) water quality requirements. The new IMS treatment plant, consisting of microfiltration (MF) followed by low-pressure reverse osmosis (LPRO), operates with the lime softening plant to increase capacity and improve finished water quality, especially in terms of disinfection byproducts (DBPs).

CHA's pilot study report guided the engineering design of the WTP expansion and provided study results to meet OEPA regulatory requirements. The design included an integrated membrane process for treating the surface water source. The project included approximately 3,500 feet of 36-inch HDPE raw water piping to connect the new membrane facilities to the raw water reservoir. The membrane expansion facilities were designed for a build-out capacity of a 6.0 MGD addition to the existing treatment plant with a first phase installation of 3.0 MGD. CHA's responsibilities included onsite inspection, construction management, funding compliance support, facility startup, testing, commissioning, and OEPA certification. We performed a blending analysis to affirm stability and maximum use of the most efficient water treatment technology. The study was used to implement the IMS to yield the best quality water at the most cost-effective range.

Client Contact: *Brian O'Connell; Director of Public Infrastructure/Utilities; T: 419.354.6246; E: boconnell@bgohio.org* **|** ***Personnel:*** *C.R. Reiss, G. Dunkelberger, M. Worsham, S. Hoxworth, E. Talton*
Start/End Dates: *2011 - 2013* **|** ***Budget:*** *$279K*



SPRUCE CREEK WTP MEMBRANE REPLACEMENT AND STUDY Volusia County, FL

Volusia County owns and operates the Spruce Creek Fly-In WTP with a treatment capacity of 0.5 MGD. The WTP uses nanofiltration as the treatment process. The existing membranes at the WTP (installed in 2006) were removing more minerals than expected for nanofiltration membranes and were approximately 13 years old; therefore, they were beyond the typical life expectancy of membranes (7-10 years). The county contracted **CHA** to review established membrane manufacturers to minimize the removal of necessary minerals. CHA performed a membrane replacement study in 2019 and recommended the replacement of the existing membranes with new membranes to allow more minerals to go through them.



CHA provided engineering services to support the county through the full replacement and startup certification of the new membrane elements.

Client Contact: *Michael Ulrich, Director of Water Resources and Utilities; T: 386.943.7027; E: mulrich@volusia.org* **|** ***Personnel:*** *C.R. Reiss, G. Dunkelberger, S. Hoxworth, E. Talton*
Start/End Dates: *2016 - 2019 (Study); 2020 - 2022 (Replacement)* **|** ***Budget:*** *$39K*



CENTRAL REGIONAL UTILITY SERVICE AREA (CRUSA) WATER PRODUCTION FACILITY | Polk County Utilities, FL

CHA's detailed plant design included two emergency power generators to improve reliability, high-service pumping, and granular activated carbon (GAC) units with redundant facilities to meet the projected demands and increase safety. The design accelerated the ozonation specifications to allow for the early purchase of the ozone equipment to save the county from paying state tax and allow for efficiencies during construction.

The GAC system was designed to allow an adjustment of flow rate so a certain portion of the ozonated water can bypass the GAC and be blended directly with the GAC water to meet strict water quality limits without undo cost to provide further flexibility and reduced operating cost. CHA reviewed, revised and completed the calibration of the CRUSA potable water hydraulic model in support of the design efforts. Services included preliminary design, final design, permitting, bidding, construction phase and start-up.

The completed facility includes three Upper Floridan Aquifer (UFA) raw water wells, LOX storage and feed systems, ozone generation, a side stream ozone injection system, ozone dissipation chambers, transfer pumping, GAC units, chlorine feed systems, corrosion inhibitor, 1 MG ground storage reservoir, and high-service pumping. The wells are outfitted with vertical turbine pumps and emergency power with engine generators. The high-service pumping station is equipped with horizontal, split-case centrifugal pumps with variable frequency drives (VFDs) and has a capacity of 8 MGD.



Client Contact: *Holden Wright, PE; Capital Project Manager; T: 407.703.1731; E: HoldenWright@polk-county.net* **|** ***Personnel:*** *C.R. Reiss, G. Dunkelberger, J.R. Voorhees, A. Dethloff, M. Worsham, S. Hoxworth, E. Talton* **|** ***Start/End Dates:*** *2016 - 2019* **|** ***Budget:*** *$3.3M*



SOUTHEAST REGIONAL WATER TREATMENT PLANT MAJOR UPGRADES | Seminole County, FL

The Seminole County Environmental Services Department (SCESD) owns and operates the 19.4 MGD Southeast Regional Water Treatment Plant (SER WTP), the primary potable water source for its service area. The plant's groundwater source had elevated concentrations of hydrogen sulfide and organics, which existing treatment did not target, resulting in disinfection byproduct levels above the new Stage 2 Disinfectant/Disinfection Byproduct Rule (D/DBP) regulations. Following pilot studies performed by **CHA**, Seminole County selected the addition of ozonation treatment to oxidize the sulfide followed by granular activated carbon (GAC) treatment to reduce organics.

SER WTP was the first WTP in Florida to use ozonation and GAC treatment to meet the Stage 2 D/DBP requirements. CHA designed the ozone and GAC treatment, conversion from chlorine gas to sodium hypochlorite for disinfection, control system upgrades, and new electrical service with increased reliability. Permits were obtained through the Florida Department of Environmental Protection, including an extension on the timing for Stage 2 compliance, Seminole County Planning and Zoning Development Review Committee, and Building Department.

Construction was sequenced to prevent service interruption, as this is the area's primary WTP.. CHA was the Engineer-of-Record for the construction phase, which involved contractor coordination, hands-on startup, and certification services.

Client Contact: *Dennis Westrick; Interim Utilities Engineering Division Manager; T: 407.665.2041; E: DWestrick@seminolecountyfl.gov* **|** ***Personnel:*** *C.R. Reiss, G. Dunkelberger, M. Worsham, S. Hoxworth, E. Talton* **|** ***Start/End Dates:*** *2011 - 2013* **|** ***Budget:*** *$2.09M*



PEACE RIVER FACILITY CAPACITY OPTIMIZATION STUDY
DeSoto Coutny, FL

To address anticipated increasing member government and customer demands, the Peace River Manasota Regional Water Supply Authority selected **Ardurra** to perform an analysis of its 51 MGD Peace River Facility surface water treatment plant to determine means of increasing the plant's capacity by making modifications to the existing processes or by expanding the plant. Services included analyzing existing operational data, performing capacity evaluations of each unit process, and identifying opportunities to increase the plant's capacity by changing operations or modifying the existing treatment processes. A total of 13 alternatives means of increasing capacity were identified and evaluated. For each alternative, required process changes and additional equipment were determined, and comparative costs were developed. The alternatives were then ranked based on capital and life-cycle costs, seven non-cost criteria and a weighting system developed by Ardurra and the Authority. Detailed Opinions of Probable Construction Cost were then developed for the top five ranked alternatives, providing the Authority with a framework for choosing the preferred alternative of expanding the facility by constructing a new 24 MGD process train with plate settlers and membrane filtration.

Client Contact: *Richard Anderson; Director of Operations; T: 863.993.4565; E: randerson@regionalwater.org* **|** ***Personnel:*** *C. Kuzler, Y. Sun, J. Greenburg*
Start/End Dates: *2021 - 2022* **|** ***Budget:*** *$152.6K*



LEHIGH ACRES WATER SUPPLY IMPROVEMENTS – WATER SUPPLY SYSTEM MASTER PLAN | Florida Governmental Utility Authority, FL

The Florida Governmental Utility Authority (FGUA) provides potable water to the Lehigh Acres service area through two water treatment plants. Water Treatment Plant No. 2 (WTP 2) was originally intended to be a source of potable water supply; however, high levels of TDS were experienced in the raw water supply wells. The Florida Department of Health (FDOH) issued a temporary variance that expired in 2011. Due to the economic downturn and flat growth within the Lehigh System, the facility was converted to a booster pump station.

The Lehigh Acres area has experienced significant growth in the last five years thus, driving the need to provide additional water supply. To address this issue, the FGUA hired **Ardurra** to complete a Water Supply Master Plan, the results of which are described in the report entitled "Water Supply System Plan and Wastewater System Expansion Plan," dated February 2022. The report recommended that WTP No. 2 be converted to a brackish water reverse osmosis plant and that WTP No. 1 be converted from a lime softening plant to a nanofiltration membrane plant.

As part of the development of the report, Ardurra and ASRus completed water quality testing of existing Floridan aquifer wells at WTP No. 2 to determine the level of treatment required at WTP No. 2 and subsequent to completing the report, Ardurra and ASRus developed the application package and obtained a construction permit for the deep well injection system.

At this time, the team of Wharton-Smith/Ardurra/ASRus has been selected to provide Design-Build services for the construction of the WTP No. 2 reverse osmosis facility, including reconstruction of the existing supply wells, construction of a new supply well and construction of a deep injection well for disposal of the concentrate. Design of the project has just been initiated.

Client Contact: *Robert Dickson, P.E., Capital Program Manager; T: 407.629.6900 x107; E: rdickson@govmserv.com* **|** ***Personnel:*** *C. Kuzler, L. Truong, M. McNeal*
Start/End Dates: *2021 - 2022* **|** ***Budget:*** *$198K*

SECTION 3. CONSULTANT TEAM'S HYDROGEOLOGIC EXPERIENCE

Resumes of Key Personnel - Hydrogeologic Experience



KIRK MARTIN, PG - Hydrogeologics - Supply
Education: Florida Atlantic University, FL, B.S., Geology; Wright State University, OH, Graduate Geophysics **|** ***Registrations/Certifications:*** Professional Geologist- FL (#79), AL, NC **|** ***Firm and Location:*** WSA, Fort Myers

Kirk has over 40 years of experience conducting groundwater resource investigations and managing complex integrated water resource programs. He has expertise in fresh and brackish water supply development, groundwater hydraulic interpretations, and fresh/saline water relationships in coastal aquifers. Kirk has extensive experience in applying statistical analyses, computer models and geophysical methods to solve water resource issues. He takes a "total water management" approach to water resource planning and challenges, providing more creative solutions to address multiple-level issues. His project experience includes large-scale water supply, aquifer recharge, and injection well design, construction, testing, and evaluation. He has extensive knowledge of water policy and the regulations governing water supply and water resource management. Representative project experience includes:

- Miami-Dade Water and Sewer Authority, FL, South Miami Heights Brackish Water Wellfield
- Collier County, FL, Wellfield Design, Construction, and Management
- City of Cape Coral, FL, Wellfield Design, Construction, and Management



MICHAEL ALFIERI, PG - Hydrogeologics - Supply
Education: Binghamton University, NY, M.A., Geological Sciences; Alfred University, NY, B.A., Geology and Environmental Studies **|** ***Registrations/Certifications:*** Professional Geologist- FL (#PG2476), AL, AZ, GA, IL, IN, LA, MS, MO, NC, SC, TX, VA **|** ***Firm and Location:*** WSA, Fort Myers

With over 25 years of experience, Mike manages hydrogeological/water resource engineering teams in the evaluation, planning design, testing, permitting, and construction of wells for potable supply, deep injection, and managed aquifer recharge. He has provided technical guidance for the development of over 10 mgd of raw water supply. He is currently Chair of the Florida Board of Professional Geologists and the Chairman of ASTM Sub-Committee D18.21.03: Well Design, Maintenance and Construction. Mike is well respected by state regulators and considered an expert in karst hydrogeology, groundwater flow models, such as the DDWRM v1-v4, and Underground Injection Control permitting. Representative project experience includes:

- Lee County, FL, Algenol Class I Injection Well System Operation Repermitting Application
- Charlotte County, FL, Proposed Starling View Development Water Use Permitting



MARK MCNEAL, PG - Hydrogeologics - Disposal
Education: Brigham Young University, UT, B.S., Geological Engineering **|** ***Registrations/Certifications:*** Professional Geologist- FL (#1231) **|** ***Firm and Location:*** ASRus, Tampa

Mark is Chief Executive Officer for ASRus, LLC. He has 38 years of experience in hydrogeologic investigations in Florida, including project management of ASR, deep well injection, reuse, and water supply projects; design and permitting, well construction inspection; data analysis; geophysical logging and interpretation; aquifer pumping test design and analysis; system startup; well rehabilitation activities, mechanical integrity testing, and operational cycle testing. Mark is well known with FDEP and EPA Region IV for unique approaches and strategies in UIC permitting. Representative project experience includes:

- Lee County, FL, FGUA Lehigh Acres Injection Wells
- West Villages Improvement District, Sarasota County, FL, Deep Injection Well Installation
- City of St. Petersburg, FL, Injection Well Program
- Manatee County Utilities, FL, Design and Permitting for Class I Injection Wells at North Manatee WWTP

Project Examples - Hydrogeologic Experience



WELLFIELD DESIGN, CONSTRUCTION, AND MANAGEMENT
Collier County Utilities, FL

For Collier County Utilities, **WSA** staff designed, permitted, and oversaw the construction of a 3 brackish wellfields consisting of 84 production wells in total. These production wells depths vary, but are generally under 1,200 feet, and produce upwards of 80 MGD in total. As part of their continuing service to the county, WSA has recently completed well rehabilitation using a carbon dioxide (CO2) well treatment process to improve the well yields of the freshwater production wells, which are used for blending. This treatment resulted in well yield improvements ranging between 180% and 625% and close to 5 MGD from treatment of just 10 wells. In addition to the brackish wellfields, WSA staff designed, permitted, and oversaw the construction of 10 Class I deep injection wells (DIWs) along with the associated dual zone monitor wells. The DIWs are used to either dispose of reverse osmosis (RO) brine and/or excess treated wastewater not used for reclaimed irrigation. WSA staff have been providing hydrogeologic services to the county since 1991.

Client Contact: *Alicia Abbott, Project Manager; T: 239.252.5344; Alicia.Abbott@colliercountyfl.gov*
Personnel: *K. Martin, M. Alfieri*
Start/End Dates: *1988 - Ongoing* | ***Budget:*** *Varies by project*



WELLFIELD DESIGN, CONSTRUCTION, AND MANAGEMENT
City of Marco Island, FL

The City of Marco Island has been a returning client for **WSA** staff since 1991. The city's RO wellfield is an important component of the city's supply and is especially critical during the dry season when demand is highest and the surface water supply is limited. For the city, WSA staff designed, permitted, and oversaw the construction of a brackish wellfield consisting of 20 production wells in total. The production wells' depths vary, but are generally under 580 feet, and produce upwards 7 MGD in total. In 2018, as part of their continuing service to the city, WSA completed well rehabilitation testing using the CO2 to improve the well yields of two production wells. This treatment resulted in well yield improvements up to 418%. As part of the overall brackish water system, WSA staff also designed, permitted, and oversaw the construction of 2 Class I DIWs for the city, along with the associated dual zone monitor wells, to dispose of RO brines.

Client Contact: *Jeff Poteet, General Manager; T: 239.389.5181; jpoteet@cityofmarcoisland.com*
Personnel: *K. Martin, M. Alfieri*
Start/End Dates: *1991 - Ongoing* | ***Budget:*** *Varies by project*

ENGLEWOOD WATER DISTRICT INJECTION SYSTEM FY2023 MISCELLANEOUS SERVICES
Englewood Water District, Englewood, FL

ASRus is providing miscellaneous injection well services to the Englewood Water District under a Continuing Services Contract. During Fiscal Year 2023, these services include re-permitting IW-2, which accepts both municipal and concentrate waste streams, mechanical integrity testing at IW-2, and regulatory assistance at IW-1 and IW-2, including a minor modification to the IW-1 permit and an O&M Manual Update.

Client Contact: *Keith R. Ledford, Jr., PE; Technical Services Manager; T: 941.460.1020; kledford@EWDfl.com*
Personnel: *M. McNeal, P. Larkin*
Start/End Dates: *2022 - 2023 (Est.)* | ***Budget:*** *Varies by project*

MANATEE COUNTY NORTH IW-2 MISCELLANEOUS SERVICES
Manatee County, FL

ASRus has assisted Manatee County Utilities with design, permitting, construction and operational testing of IW-2 at its North WWTP. The well is designed to accept RO concentrate for a future RO plant in the project area. Recent services include applying for an operating permit, mechanical integrity testing, well rehabilitation efforts, and miscellaneous regulatory assistance. ASRus has held this contract with the county since 2016.

Client Contact: *Kevin Morris, PE; Deputy Director – Utilities; T: 941.795.0342; kevin.morris@mymanatee.org*
Personnel: *M. McNeal, P. Larkin*
Start/End Dates: *2016 - Ongoing* | ***Budget:*** *Varies by project*

PINEY POINT INJECTION WELL SYSTEM
Manatee County, FL

ASRus was contacted by Manatee County in April 2021 following a breach in the Piney Point Gypstack. The breach resulted in an extensive evacuation and a state of emergency in the area. Due to the high level of confidence that the county had in ASRus' injection well services for several years leading up to this event, the county had ASRus under contract within approximately one week to design, permit, provide construction oversight, start-up, and operational testing assistance for a Class I Industrial injection well system, similar to a concentrate system, to safely lower the pond levels in the onsite ponds. The injection zone is into the Lower Floridan aquifer system to a depth of approximately 3,400 feet below land surface. ASRus began work immediately and received an FDEP permit to construct the well. Three bids were received from drilling contractors, and Youngquist Brothers was selected to perform the work, having provided the best schedule and cost to complete the well. ASRus provided oversight services and completed the well completion report to obtain operational testing approval to start injecting Piney Point pond water into the injection well system. That approval process is ongoing with all parties involved committing to have the injection well system injecting water by April 1, 2023. ASRus will assist with operational testing, including permitting, until the system is ready for the county to take control of the injection well operations full-time.



Client Contact: *Kevin Morris, PE; Deputy Director – Utilities; T: 941.795.0342; kevin.morris@mymanatee.org*
Personnel: *M. McNeal, P. Larkin*
Start/End Dates: *2022 - Ongoing* | ***Budget:*** *$800K*

Organizational Chart

Our team has been built to provide the Authority with an extraordinary blend of engineering expertise, Florida project history, and personalized service. **Robert Reiss, PhD, PE**, our proposed project manager, will serve as the Authority's direct day-to-day contact. We have assigned the most qualified project team for the scope of services identified in your RFQ. Each team member was specifically selected to assist in completing all unique challenges and project needs successfully. Our team's organizational chart can be found below, along with resumes on the following pages in Sections 2 and 3. A companion Key Personnel Chart (Attachment A) identifying our proposed key personnel project roles is included in Section 6.



CLIENT SERVICE MANAGER
Bart Jones, PE[1]

TECHNICAL ADVISOR
Glenn Dunkelberger, PE, BCEE[1]*

PROJECT MANAGER
Robert Reiss, PhD, PE[1]*

QUALITY MANAGER
J. Richard "Rich" Voorhees, PE, BCEE[1]*

SWFWMD LIAISON
Thomas Burke, PE[3]*

ASSISTANT PM/QA/QC
Chris Kuzler, PE[2]*

WATER TREATMENT PROCESS
Robert Reiss, PhD, PE[1]
Arnab Hanra, PE[1]*
Yue Sun, PE, BCEE[2]*

WATER TREATMENT DESIGN
Arnab Hanra, PE[1]
Mark Worsham, PE[1]*

EXISTING PRF MODIFICATIONS
Joe Greenburg, PE[2]*

HYDRO - SUPPLY
Kirk Martin, PG[4]*
Michael Alfieri, PG[4]*

HYDRO - DISPOSAL
Mark McNeal, PG[5]*
Pete Larkin, PG[5]

CONVEYANCE
Weston Haggen, PE, DBIA, ENV SP, PMP[1]*
Pamela Kerns, EI[1]
Scott Hoxworth, PE[1]*

PUMP STATIONS
Allen Dethloff, PE[1]*
Loc Truong, PE[2]*

PRODUCTION WELL DRILLING
Robert Huss[9]

INJECTION WELL DRILLING
Tim Youngquist Jr.[10]
C.W. (Bill) Musselwhite[10]

STORMWATER
Ben Pernezny, PE[2]

PERMITTING
Allen Dethloff, PE[1]
Kirk Martin, PG[5]
Mark McNeal, PG[5]

SITE/CIVIL
Emily Williamson, PE[1]*
Nicole Lynn, PE[2]*

HYDRAULIC MODELING
Edward Talton, PE[1]*
Parsa Pezeshk, PhD, PE[1]*

ECOLOGICAL
Brian Skidmore, PE[2]

ELECTRICAL/I&C/SCADA
Pete Hoanshelt, PE[6]
Eduardo Martinez, PE[1]

STRUCTURAL
John Sobczak, PE[7]

GEOTECHNICAL
Larry Moore, PE[8]
Joseph Antinori, PE[8]

SURVEY/SUE
Greg Baksis, PSM[2]

COST ESTIMATING
Bruce Jensen, CEP[1]*

FIRM LEGEND

1. CHA Consulting, Inc.
2. Ardurra Group, Inc.
3. Applied Sciences Consulting, Inc.
4. Water Science Associates, Inc.
5. ASRus, LLC
6. EMI Consulting Specialties, Inc.
7. Wekiva Engineering, LLC
8. Tierra, Inc.
9. Huss Drilling, Inc.
10. Youngquist Brothers, LLC

**Resume included in Sections 2 or 3*

Bold names indicate Task Lead

Please note that certain individuals identified on this organization chart with a "PE" designation may be licensed in other states, but not in FL. Please refer to the individual resumes included in this submission for state-specific licensure information. All engineering work for the project will be supervised and stamped by individuals who are licensed in State FL.

150+ staff in Florida with 1,500+ employees company-wide to assist the Authority as needed on this project

SECTION 4. PRELIMINARY PROJECT UNDERSTANDING, APPROACH, AND SCHEDULE

Preliminary Project Understanding and Approach

The Authority owns and operates the PRF, a surface water treatment plant with a current permitted capacity of 51 mgd. IThe demand for Authority water is anticipated to increase by 15 mgd in 2037 and an additional 9 mgd by 2042 to bring the total required capacity to 75 mgd. The Authority is now engaged in the preliminary design for a new 9-Billion Gallon ground-storage reservoir, new surface water intake and pump station on the Peace River, new reservoir pump station and affiliated equipment and pipelines to address this future demand. The Authority also intends to apply to SWFWMD for Cooperative Funding in October of 2023 for a 24 mgd expansion to the surface water treatment plant as part of the solution matrix to meet the higher demand. The Authority recently modified its Water Use Permit to allow groundwater withdrawal at 9 mgd as an additional raw water supply to address drought-resistance issues, reliability, and resiliency. It is expected this Preliminary Engineering Report (PER) will develop an approach to complete a 30% design for a RO brackish groundwater treatment plant with an ultimate Avon well water treatment capacity of 5 mgd average day; 6 mgd peak day; and 7.2 mgd peak hour. Max IAS well system raw water production of 1.8 mgd will bypass the RO systems and be blended with the RO permeate produced using Avon well water. The PER will also address permitting, the construction of both groundwater supply wells, treatment concentrate disposal wells, hydrogeologic testing of the wells, and construction and life-cycle costs. Because recent opinions of probable cost have rapidly escalated over the past two years on the extant Authority Capital Improvement Projects, the board will use the outcome of this PER to compare the technical basis and life-cycle cost analyses to the other water supply alternatives for board action.

Groundwater supply wells will be located in the RV Griffin Reserve and will draw water from both the intermediate aquifer system (IAS) permeable zone three (PZ3) and the Avon Park Formation of the Floridan aquifer. The IAS PZ3 has a higher quality source water which may be blended with water from the Avon Park Formation to provide a more stable water quality supply over time. We will analyze blending ratios (blending sand/cartridge filtered IAS well water with RO-treated Avon permeate) on the order of magnitude of approximately 20% high-quality water from the IAS PZ3 to approximately 80% from the lower-quality Avon Park Formation. Our hydrogeologists will utilize SWFWMD's Districtwide Regulation Model (DWRM) to assess potential adverse impacts on other existing legal water users, and other SWFWMD-approved models to simulate pollutant transport; such as but not limited to: sodium, iron, sulfate, chloride, and TDS in multi-year increments to predict source water quality as feedstock to the brackish groundwater facility. Once the groundwater source quality is determined, given the varying water quality within the respective supply zones, CHA will base its design on using RO technology to provide a finished water quality that exceeds primary and secondary water quality standards. Finally, disposal of the concentrate from the brackish groundwater facility is to be co-located in the RV Griffin Reserve in proximity to the Aquifer Storage and Recovery (ASR) wells. The concentrate disposal will be into the Lower Floridan aquifer and will have no effect on the ASR wellfields. More critical is the siting of the supply wells to not adversely impact ASR operations.

The CHA team's general approach to completing the 30% Design PER follows.

Concept Plan Workshop

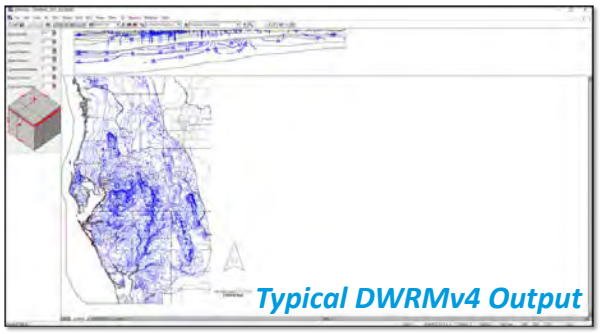
The project will start with a kick-off workshop to allow Authority staff and the CHA team to review and reach a consensus on the major brackish groundwater facility concepts that address site layouts, supply well concerns and issues, treatment facility process concepts and functional spaces, disposal well concerns and issues, electrical supply to the various elements, Authority redundancy/resiliency requirements, safety, instrumentation and control strategies, SCADA interconnects, etc. We will also identify any information that may be missing that would be necessary to complete the 30% Design PER on schedule.



HYDROGEOLOGIC CONSULTING SERVICES

Hydrogeologic consulting services are a critical portion of the project that is an underlying element for all of the other project tasks and initiatives. Good data collection and analyses is required to properly assess well performance, design well modifications, change operational protocols, site new production wells and concentrate disposal wells, and provide the basis for strategic planning and systems integration. While constructing the 2022 modified SWFWMD WUP production wells at the SWFWMD authorized locations, specific emphasis will be placed on understanding geologic structure, fracture flow potential, and confinement integrity.

Ultimately, all data collected and evaluated will be used to develop a further refined comprehensive conceptual model of the hydrogeology and water resources in, underlying, and surrounding the PRF. The DWRMv4 model will be used to evaluate wellfield operations, impacts, and interferences and to site new well locations, modify wellfield operations, and design wellfield expansions. Following discussions with the Authority, the DWRMv4 model may be modified to incorporate SEAWAT, the U.S. Geological Survey's (USGS) three-dimensional variable-density groundwater flow program.



Typical DWRMv4 Output

NEW WELL CONSTRUCTION

New Brackish Supply Well Siting

The Eocene Avon Park Formation has been found to be the most productive zone in the upper Floridan aquifer at the Peace River Water Treatment Facility with total dissolved solids (TDS) concentrations on the order of 4,000 mg/L. The recently modified SWFWMD WUP proposes to minimize inter-aquifer communication with overlying domestic well zones targeting the IAS production zones No. 2 and 3 (PZ-2 and PZ-3) and the existing ASR well storage zone (Oligocene Suwannee Limestone) by casing through the entire IAS to withdraw from the Eocene Avon Park Formation as the primary source of brackish water. With the top of the permeable zone of the Eocene Avon Park Formation identified at 1,400 feet below land surface at the Peace River Water Treatment Facility, this zone is approximately 300 feet thick. During the WUP modification process, an anticipated production capacity of 3 to 5 mgd per production well was indicated.

In addition to the proposed Eocene Avon Park Formation production wells, the 2022 SWFWMD WUP modification authorizes the construction of production wells within the IAS PZ-3 as a secondary source water for blending. The 2022 WUP modification includes four Eocene Avon Park Formation production wells and six IAS PZ-3. 80% of the proposed production will be from the proposed Avon Park production wells.

Existing data indicates that the TDS concentration range is approximately 500 to 600 mg/L, which is slightly brackish. The currently proposed production wells target a zone from 200 to 400 feet below the land surface at the Peace River Water Treatment Facility. The IAS production wells should have a raw water production capacity of up to 1 mgd per production well.

Preliminary Discussion of Targeted Aquifers

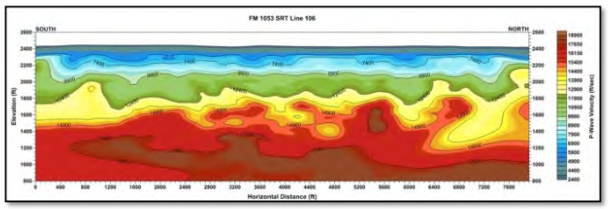
Based on our experience, we would preliminarily agree with the SWFWMD authorized targeting of the Eocene Avon Park Formation as the primary source for brackish water and focus on IAS PZ-3 for blending water. We believe that this approach will provide the flexibility to withstand any projected changes in raw water salinity and ensure long-term sustainability, resiliency, and reliability under active wellfield conditions.

Rapid salinization of production wells in brackish wellfields is a common problem affecting approximately one out of every four or five wells. In our experience, the observed increase in salinity is highly localizedz, often with wells with the best water quality water found directly adjacent to a production well with the worst water quality. All of this is suggestive of high-angle fracturing that allows for the preferential flow of more saline

groundwater from beneath the primary production zone.

Complicating the matter is regional gComplicating the matter is regional groundwater flow density-dependent models with local refinement, which tend not to represent this scenario accurately if represented at all. Models that are well calibrated to the system hydraulics will typically lose that calibration once you calibrate to solute changes over time. Typical hydrogeologic test programs are generally not adequate to fully assess this potential for preferential flow without a robust testing program at each proposed production well site. For this reason, Water Science has recently implemented seismic reflection to better evaluate high-angle fracturing within a brackish wellfield but so far has found mixed results in identifying fractures of concern related to wells with elevated chlorides.

Typical Seismic Reflection Output



Water Science understands that inter-aquifer leakage has been a critical component of success or failure for brackish production wells. Internally, Water Science has evaluated the rapid salination issue at more than 20 brackish wellfields and come to a few conclusions. We have found little to no correlation between the transmissivity of the aquifers, the spacing of the production wells within the wellfield, the individual well production rates, or even the rigor of traditional testing programs. What we have found is some correlation to specific capacity, with the best-performing wells having the most propensity for the rapid degradation in water quality, again suggesting that fracture flow is a principal cause and time of service suggesting some degree of inevitability as the effects of long term pumping will eventually expose those hydraulic connections existing in the aquifer system.

Water Science has found that one of the most effective solutions to the rapid water quality degradation issue is to have redundancy in the production well system and a source of blend water with a consistently-fresher signature. Additional production wells provide rotational capacity, which reduces reliance on individual production wells, distributes the hydraulic impacts of pumping over a larger area, and provides for blending management of water from wells with different water qualities. In addition, we see a great opportunity in the relatively low-rate use of the IAS PZ-3 for strategic raw blending as a means to fully manage the quality of influent raw water to the ROWTP.

In reviewing the existing Avon Park ASR well testing data, the Eocene Avon Park Formation is open to stratigraphically adjacent limestone (permeable) beds both above and beneath the primary production zone. Based on testing completed, the overlying and underlying beds are contributing to the vertical leakage of water into the production interval resulting in a raw water quality that tends toward stabilization more so than typical brackish water wellfields that tap the uppermost part of the Floridan aquifer system with thick clay beds overlying the production zone and much more permeable limestone underlying the production zone. These data suggest that the rapid degradation is not readily evident, at least in the one Avon Park well tested at the site.

To add to the wealth of hydrogeologic data collected over the decades at the Site, particularly from the ASR program completed by ASRus, Water Science believes in improving the overall understanding of inter-aquifer communication. Water Science will use the first production wells constructed within the IAS and the Avon Park Formation as test well locations. We propose over-drilling each location to selectively collect additional information pertaining to confinement and water quality by using packers to test selected zones hydraulically and collect discrete water quality samples. Additionally, we propose geophysical logging the “test well” locations to provide additional hydrogeologic parameter data prior to constructing production wells. This additional measure will provide reasonable assurances that the proper zones are targeted to maximize yield and available water quality and should result in construction cost savings.

Class I Injection Wells Injection Well

Injection well systems are regulated and permitted in Florida under the Underground

Injection Control (UIC) Program, which is administered by the FDEP. The design, permitting, and construction of an injection well system requires an intimate knowledge of local hydrogeological conditions, well construction methodologies, and regulatory requirements. Our team members have played key roles in designing, permitting, and constructing numerous injection well projects throughout Florida. ASRus and Water Science staff have been involved in designing and constructing deep injection wells in southwest Florida for over 40 years.

The primary purpose of the UIC Program is to protect the quality of USDWs as defined by the United States Environmental Protection Agency (USEPA). Successful permitting of injection well systems requires meticulous attention to both technical and administrative details and issues. Siting the location for the proposed Class I injection well will have to consider the potential for interference with existing or proposed production wells, the proximity to water supply and distribution hubs, and the potential for impacting the existing ASR system.

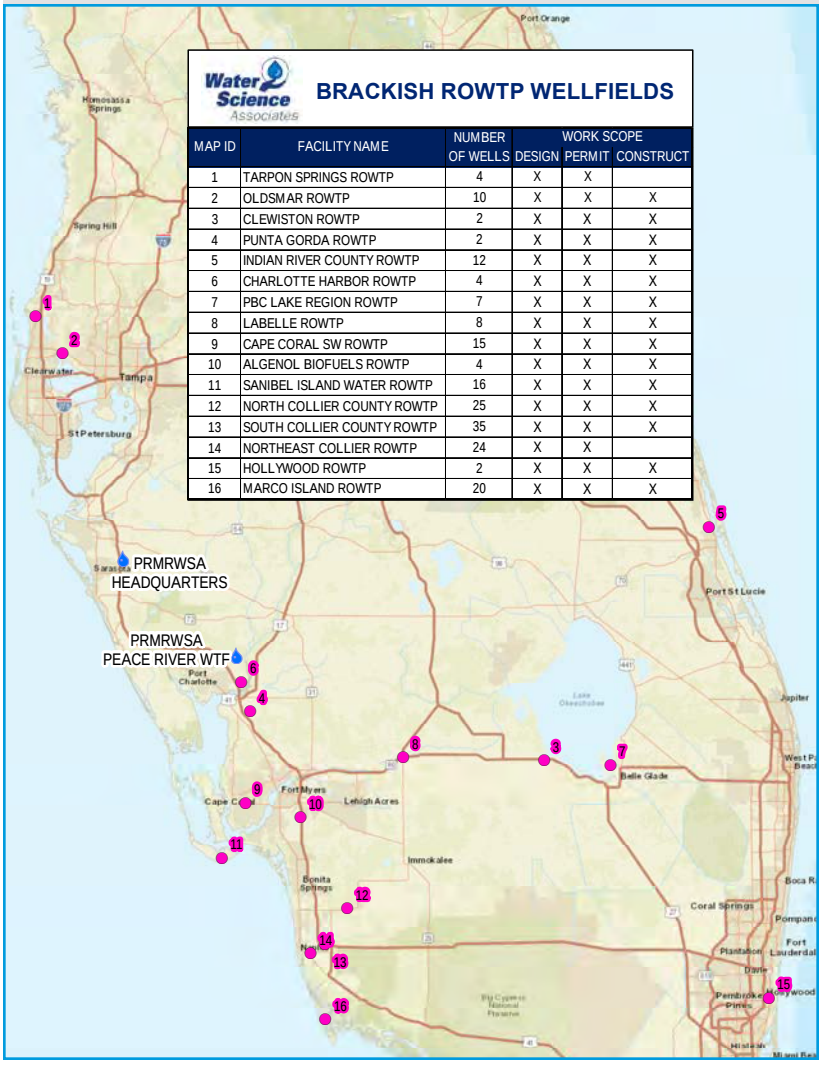
Following internal review and upon the Authority's approval, our team will have a pre-application meeting with the FDEP. We have an excellent relationship with the regulators at the local Ft. Myers office, as well as the reviewers/executive UIC staff in Tallahassee. Over the last few years, we have leveraged our close working relationships to find ways we can help FDEP UIC staff help us. In turn, the FDEP staff seem to be appreciative, often expediting our approvals timelines once the main reviews are done. Following the pre-application meeting, we will work with the Authority and FDEP to move the project through the permitting process.

Post-permitting and following the retention of a contractor, our team will provide construction oversight below and above the land surface. Although permits will be obtained based on the best available data, local knowledge again will save time and money for the Authority. We know the local geology and know what to expect with local injection well construction in southwest DeSoto County.

During the construction phase, our team will: provide construction oversight and project management; provide the Authority with a written weekly status report based on internal daily status reports; set up bi-weekly video conference calls with the team

WSA ADDITIONAL PROJECT EXPERIENCE IN FLORIDA

WSA has a long history of successfully completing brackish ROWTP wellfield projects throughout Florida. Please refer to the map below for a sampling of **recent directly-related project experience**:



and the Authority; if unforeseen geologic/ hydrogeologic conditions are encountered, provide a detailed report to the Authority verbally, along with providing the internal daily status report for that day; and a well completion report for retention in the Authority's records and for submittal to the FDEP.

Together, ASRus and Water Science have one of the deepest benches of geologists and hydrogeologists with the lengthiest resume of local Class I UIC well design, permitting, and construction oversight experience in all of southwest Florida. We offer unsurpassed local hydrogeologic experts with intimate knowledge of the site area, the proposed designs, and requirements. We are the leaders in southwest Florida for the design permitting and construction of Class I injection wells targeting the Boulder Zone of the Eocene Oldsmar Formation. ASRus has been actively involved with the Authority's ASR system since its inception in 2006, and Mark McNeal has been involved with Wellfield 1 activities since the mid-1980's. ASRus provided hydrogeologic supervision of the 2013 Exploratory Well, confirming the feasibility of a Class I industrial injection zone at the PRF through a cost-effective exploration of drilling and testing the Lower Floridan aquifer (LFA) from the existing Avon Park ASR well. Although the "Boulder Zone" was not encountered, sufficient capacity for concentrate disposal exists in the LFA at the PRF. Water Science has completed 4 Class I injection wells within a 25-mile radius of the PRF and understand the nuances of the local hydrogeology.

INFORMATION MANAGEMENT SYSTEM

A geographic information system (GIS) based management system will be designed and implemented for the Peace River Water Treatment Facility's proposed brackish wellfield and existing wellfield, the proposed Class I injection well system, the existing ASR systems, observation wells, surface water pump stations, and monitoring stations. The system will be designed to allow access to a variety of information types for any water supply, control, or monitoring point. For all wells, this will include, if readily available: completion information (including completion date, casing diameters and setting depths, and total depth); formation, aquifer and confining unit depths; lithologic log; geophysical logs; monthly water quality; and monthly water levels. For the supply wells, it will also include monthly pumpage and remediation history. In addition to injection data, the existing ASR system will include recovery and water quality data. Stage and pumpage records should be readily available for surface water pumping stations. The proposed GIS will have mapping and data analysis capabilities such that any of the relevant particular data types can be rapidly mapped or graphed to observe the most recent and historical conditions. Enhanced data quality checks will be needed to verify accurate data.

TECHNICAL MEMORANDUM

At the completion of this work task, our hydrogeologists will provide a Technical Memorandum documenting the exploratory brackish well construction and testing program, the results, and associated observations and recommendations. The Technical Memorandum will provide all conclusions and recommendations concerning potential issues that may affect the successful and timely completion of the project and provide our recommended next steps and schedule to complete the project. This shall include, but not be limited to, documentation of well construction and testing program results and observations and predicted changes to natural background conditions (saline water upconing) under active wellfield conditions to assist the engineer of record in designing an effective and resilient water quality treatment system.

Raw Water Transmission

The Authority expects the 10 production wells to be located in the RV Griffin Reserve across the Kings Highway from the PRF. There will be six production wells in the IAS and four in the Avon Park formation. The wells will be manifolded into two separate transmission mains, which will cross the highway in the general proximity of the existing raw water line from the reservoirs.



The total distances for the transmission lines will approximately be 4 to 5 miles and will terminate at the brackish groundwater facility co-located with the existing surface water treatment plant. To optimize raw water pipeline sizing and pumping facilities, CHA will develop a hydraulic model of the proposed system to analyze configuration options while keeping in mind potential conflicts with the piping proposed as part of the new reservoir and intake pump station projects. The CHA team is highly qualified in the design and construction of the required well structures, pumping facilities and transmission mains.

Treatment Approach

Process development starts with identifying finished water quality goals, present and projected raw water quality that declines over time and blending constraints (blending sand-filtered raw IAS well water with RO-treated Avon Park well water; and in the post-treatment phase where blended RO permeate water will be re-blended with the treated surface water in a new clearwell). The final blended finished water will be distributed to the Authority's members and customers. Understanding how the water treatment processes and transmission system conditions impact overall water stability/quality will be critical to establishing a successful brackish groundwater facility design, especially post-treatment aspects at the proposed RO facility. The RO, upstream pretreatment, and downstream post-treatment system design must allow for treatment over a range of anticipated raw water qualities to meet established finished water quality requirements. Experience from select other RO facilities in the general vicinity suggests that there is a rare chance of well water TDS exceeding all anticipated/predicted values. The treatment system also needs to be flexible enough to handle unanticipated deterioration of well water quality within reasonable limits – **CHA's proposed design allows for this.**

The RO process removes dissolved solids from the brackish supply. The high pressure produced by the membrane feed pumps forces fresh water (permeate) through the membrane, leaving a concentrated salt water stream (concentrate) that must be disposed using deep injection wells. We propose to use an array of membrane suppliers and elements to evaluate initial and ultimate permeate water quality using simulation software.

The proposed RO design will optimize recovery (75-80%) with inbuilt modularity, allowing for easier equipment additions/modifications, if needed, in response to well water quality variations. Please refer to **Table A** on the following page for broad conceptual-level details of the proposed modular RO train design.

Base RO train design is based on a present-day design Avon well water TDS of approximately 4,000 mg/L. Preliminary hydrogeological evaluation indicates that this TDS may rise to no more than 8,000 mg/L in approximately 20 years. The base RO design will need only minor changes to cater to the higher Avon well TDS of 8,000 mg/L. However, given the experience of wells in the general area, the rare possibility of the baseline design TDS (4,000 mg/L) increasing by a factor of 4 to 16,000 mg/L is also considered. The worst-case TDS of 16,000 mg/L is not anticipated by the hydrogeologist. In the rare scenario that the Avon Park well approaches the 16,000 TDS value, the modular RO train design will allow easier installation of additional components with fewer disruptions to the treatment plant. Refer to **Table B** on page 34 for the three conceptual level Avon Park well design water qualities.

RO Train Redundancy and Capacity (Reference Table A)

The total permitted Avon Park well system raw water capacity as of today is 7.2 mgd. Preliminary evaluation shows that a maximum recovery of approximately 80% (75-80% range) is feasible for all three well water quality conditions. At 80% recovery, 5.76 mgd of total RO system permeate production is possible (not finished water production, which is a blend of RO permeate + IAS well bypass). A total of three trains are presently being proposed to produce this 5.76 mgd i.e. 1.92 mgd permeate per train. Based on redundancy and actual capacity needs, the total quantity of trains can be fine-tuned later during detailed design. The quantity of trains to be put online initially and quantity of future train additions will be worked out later, keeping Authority-specific needs and circumstances in mind. Note that each RO train will meet its design maximum permeate capacity of 1.92 mgd at any given

time and permeate water quality requirements for a variable well water TDS range of 4,000–8,000 (and even for worst 16,000) as long as certain components on each train are modified/added (these components are shown in the highlighted cells in **Table A**).

TABLE A
MODULAR RO TRAIN DESIGN TO ADDRESS FUTURE WELL WATER TDS ELEVATION

	RO Design @ **Baseline** raw water TDS 4,000 ppm	RO Design @ **High** raw water TDS 8,000 ppm	RO Design @ **Worst** Raw water TDS 16,000 ppm (precautionary, not anticipated)
RO Train Operating and Water Quality Parameters			
Max Permeate Capacity[ii] (approx ea train), mgd	1.92	1.92	1.92
Max permeate TDS, ppm	176	246	306
RO recovery, %	80	80	80
IAS well bypass blend attributable to 1 RO train, mgd	0.6	0.6	0.6
Approx IAS well TDS, ppm	760	760	760
Max finished water TDS (approx before post-treatment)	315	368	414
Max RO feed pressure, psig	248	456	565
RO train feed flow ea, mgd	2.4	2.4	2.4
RO Train Modular Design (to address future welll wtr TDS elevation)	**Base RO**	**Adders / Mods** to Base RO	**Adders / Mods** to Base RO
Train array (stg 1 PV: stg 2 PV)	36 : 18 (with provision to add more vessels/elements in future)	36 : 18 (with provision to add more vessels/elements in future)	36 **+ 6** : 18 **+ 3** (maxed out Qty of PVs and elements)
Membrane Type	Loose + Tight BWRO combo	**Tight BWRO**	**Sea water low pressure**
Energy Recovery Device (ERD)	No - with provision to add future ERD	No - with provision to add future ERD	**Add ERD Turbocharger**
Max feed pump flow/Pressure	2.4 mgd @ 248 psi (sized for max 565 psi)	2.4 mgd @ 456 psi (sized for max 565 psi)	2.4 mgd @ 565 psi
Feed pump wetted parts - material of construction	Duplex SS	Duplex SS	Duplex SS
Feed/Reject high pressure piping - material of construction	SS316	SS316	**Replace SS with plastic-lined CS (or make base design with lined CS)**

Notes
i) All values in above table are approximate
ii) Max permeate capacity of each train @ 1.92 mgd based on max online RO train Qty 3 and tot Avon well production 7.2 mgd.
iii) Items in blue font in blue highlighted cells represent changes/modifications required in response to increase in Avon well water TDS.

TABLE B
CONCEPTUAL DESIGN AVON WELL WATER QUALITY

	0 yr Design Avon well water **Design TDS 4,000**	≤20 yr Design Avon well water **Design TDS 8,000** (assumed doubling of baseline TDS)	Worst case Avon **TDS 16,000** (hypothetical @38% seawater ingress to baseline)
Calcium (Ca++)	182.44	365.60	268.66
Magnesium (Mg++)	114.03	228.50	567.16
Sodium (Na+)	1,094.65	2,193.60	4,809.72
Potassium (K+)	18.81	37.70	159.45
Barium (Ba++)	0.05	0.09	0.05
Strontium (Sr++)	24.52	49.13	20.15
Iron (Fe++)	0.06	0.13	0.05
Manganese (Mn++)	0.00	0.01	0.01
Ammonium (NH4+)	0.00	0.00	0.00
Aluminum (Al+++)	0.00	0.00	0.00
Cations	**1,434.56**	**2,874.75**	**5,825.24**
Bicarbonate (HCO3-)	166.48	333.61	160.99
Sulfate (SO4--)	444.70	891.15	1,314.35
Chloride (Cl-)	1,938.44	3,884.50	8,667.98
Fluoride (F-)	0.68	1.37	0.96
Carbonate (CO3--)	0.13	0.25	0.57
Nitrate (NO3-)	0.02	0.05	0.28
Phosphate (PO4---)	0.00	0.00	0.00
Bromide (Br-)	0.00	0.00	24.63
Hydroxide (OH-)	0.00	0.01	0.00
Anions	**2,550.46**	**5,110.93**	**10,169.76**
Silica (SiO2) Reactive	15.00	35.19	11.21
pH (units)	7.27	7.27	7.58
Alkalinity (mg/l as CaCO3)	136.73	274.00	132.97
Hardness (mg/l as CaCO3) calc	923.61	1,850.85	2,997.00
TDS calc (SUM)	4,000.02	8,020.88	16,006.21
Temp (C)	24.00	24.00	24.00

Note: All units in mg/L except for pH and temperature.

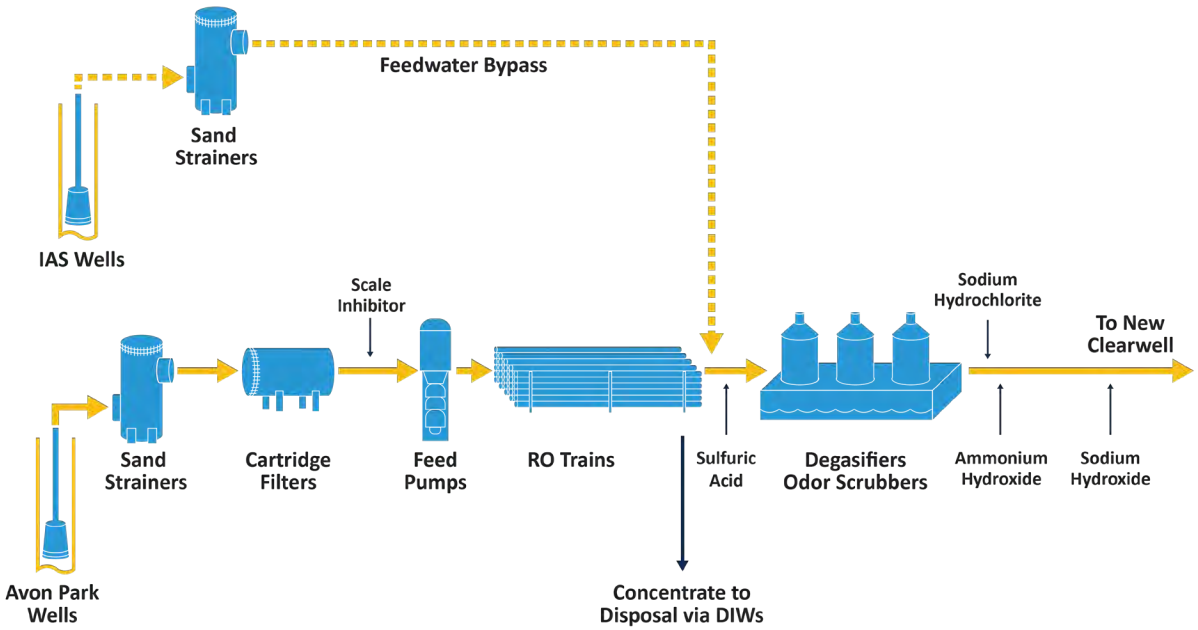
RO processes require a feed water that has minimal suspended solids and is low in fouling materials and has a low scaling potential. The RO process is excellent for dissolved solids reduction but is easily plugged by sand/silt. Therefore, pretreatment using sand filters and cartridge filters will be used to protect the membrane system. The low cost of these pretreatment components protects the more expensive membrane system. Pretreatment chemical feed systems condition the water in front of the RO system to prevent scaling using polymer-based scale inhibitors.

Hydrogen sulfide in the well water will pass through the RO membranes into the permeate. It produces an unpleasant odor that must be removed. Degasifiers, when fed low pH RO permeate water, will strip away hydrogen sulfide. Degasifiers also reduce the carbon dioxide concentration in the finished water, reducing the amount of downstream sodium hydroxide necessary for pH adjustment. The degasifier off-gas will have high concentrations of sulfide, which is corrosive to metals and creates odor issues that will address using biological and/or chemical odor scrubbers. Additional post-treatment chemicals will reduce the aggressiveness of the finished water. A desktop blending analysis will be performed to minimize post-treatment chemical usage. This will evaluate the bandwidth of blend ratios between RO-treated and non-RO-treated waters and the resulting blending water chemistry to verify an adequate post-stabilization of the finished water. Chemicals will match the PRF pH and provide disinfection residual before blending with treated surface water in a new clearwell.

RO process instrumentation control is critical, as is a new SCADA system capable of interfacing with the Authority's surface water treatment plant. We propose a system with standalone capability at the new RO plant and full integration with the PRF system; management and operators can conveniently monitor and/or control each facility from the existing control room at the surface water treatment plant.

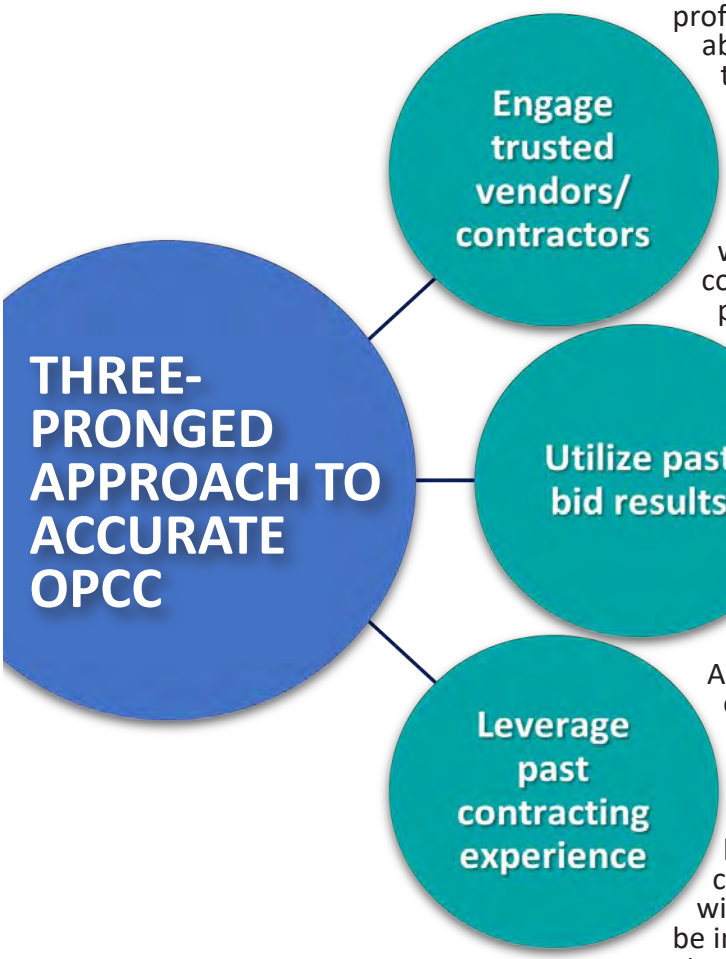
The following **Figure 1** shows a simplified process flow diagram for the RO treatment facility.

FIGURE 1
CONCEPTUAL DESIGN AVON WELL WATER QUALITY



Opinion of Probable Construction Cost (OPCC)

The CHA cost estimating team is comprised of Certified Professional Cost Estimators and Quantity Surveyors. We work under one premise and goal—to provide as accurate an estimate as possible with clear clarifications and cost breakouts because we understand the compounded impacts if we are not. Our team produces over $4.0 billion in estimates annually, from the Preliminary Engineers Report to 100% Bid Documents. We use our expertise as cost estimators, the resources within our organization of owner project managers, and design professionals to verify we achieve that goal. **We employ a three prong approach to estimating—we leverage our many vendor/contractor relationships, use past bid results, and look at the project as if we are building it ourselves, as most of our team has come from the contracting side of our industry.**



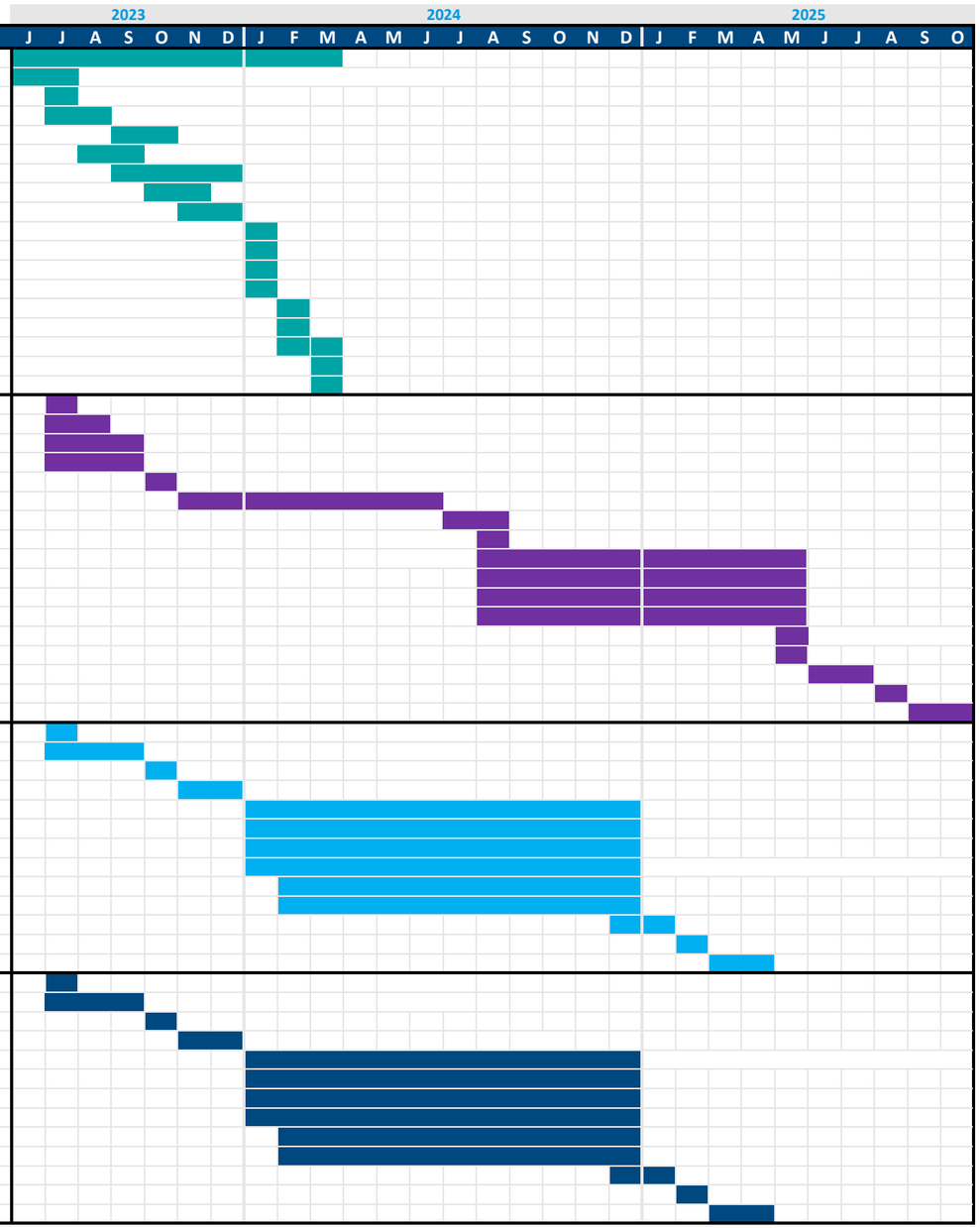
Our Chief Cost Estimator scrutinizes each line item during our QA/QC process, confirming the estimate reflects the defined and any additional anticipated scope of work to ensure completeness of the overall costing package. Our internal process has allowed our costing to remain consistent through a volatile Covid-19 construction marketplace. **To provide an additional layer of scrutiny, we will use our team's relationships with local contractors and have our estimates reviewed for accuracy and to reflect market conditions, not only at the time of the evaluation but also at the projected time of construction.**

Water Science and ASRus will be tasked with evaluating the below-grade construction of the proposed deep injection well targeting the Boulder Zone of the Eocene Oldsmar Formation, as well as the proposed six IAS production wells and the proposed four Eocene Avon Park Formation production wells. Our hydrogeologists will aid the professional engineers in completing above-grade work items, such as the design and construction of the wellhead. Since the COVID pandemic and the associated logistics struggles, costs of all well types have increased dramatically. It is completely reasonable to foresee “sticker shock” without adequately evaluating the costs before the implementation of the project.

As such, we believe our presence in the southwest Florida marketplace, our long-term close relationships with well and water treatment plant contractors, and our knowledge of the technology available to construct the proposed injection well and the proposed production wells will give our team a superior advantage in providing the Authority conservative and reliable cost estimates for the design, permitting, operation, and commencement of all the below grade well components. As part of our technical specifications, Water Science and ASRus will break down each task to complete construction to provide the Authority with actual costs for each item. This will be incorporated into the overall project cost estimate.

Proposed Project Schedule

Task	Sub-Task	Dates
PER Development	Project Administration and Management	6/7/2023 - 3/31/2024
	Data Collection and Review	6/22/2023 - 7/3/2023
	Prepare for and Attend Kickoff Workshop	7/10/2023 - 7/17/2023
	Establish Preliminary Well Locations	7/20/2023 - 8/20/2023
	Preliminary Raw water Transmission Main Design & Hydraulic Modeling	9/1/2023 - 10/1/2023
	Raw Water Quality Analysis	8/20/2023 - 9/10/2023
	Treatment Alternative Evaluation	9/10/2023 - 12/30/2023
	Electrical/SCADA Systems Assessments	10/1/2023 - 11/15/2023
	Preliminary Site/Clearwell & Building Layout	11/15/2023 - 12/15/2023
	Preliminary Ecological Assessments for the RO facility and Raw Water Transmission Mains	1/2/2024 - 1/15/2024
	Permitting Analysis	1/15/2024 - 2/1/2024
	Develop Reliable OPCC	1/2/2024 - 1/21/2024
	Draft PER---Draft 30% Design PER	1/2/2024 - 2/1/2024
	QA/QC PER	2/1/2024 - 2/8/2024
	Submit Draft PER to Authority Staff for Review	2/15/2024
	Review PER Draft by Authority Staff	2/25/2024 - 3/1/2024
	Revise PER, as Appropriate	3/1/2024 - 3/15/2024
	Submit Final PER to Authority for inclusion into Board Agenda Package	3/31/2024
Deep Injection Well	Well Siting (DIW and DZMW)	7/18/2023 - 7/31/2023
	Area od Review	7/18/2023 - 8/31/2023
	Permit Application Preparation	7/18/2023 - 9/30/2023
	Technical Specifications Preparation	7/18/2023 - 9/30/2023
	PRMRWSA Application Package Review	10/1/2023 - 10/31/2023
	FDEP Permit Approval Process	11/1/2023 - 7/31/2024
	Contractor Selection	7/1/2024 - 8/31/2024
	Mobilization	8/1/2024 - 8/31/2024
	Construction and Testing DIW and DZMW	8/1/2024 - 5/31/2025
	Borehole Geophysics	8/1/2024 - 5/31/2025
	Packer Testing	8/1/2024 - 5/31/2025
	Water Quality Sampling and Analysis	8/1/2024 - 5/31/2025
	Complete Pressure Test	5/1/2025 - 5/31/2025
	Complete Geophysical Logging and Video	5/1/2025 - 5/31/2025
	Well Completion Report	6/1/2025 - 7/31/2025
	PRMRWSA WCR Review	8/1/2025 - 8/31/2025
	Well Completion Report Submittal	9/1/2025 - 10/31/2025
Intermediate Aquifer System Production Wells	Well Siting (Based on WUP)	7/18/2023 - 7/31/2023
	Technical Specifications Preparation	7/18/2023 - 9/30/2023
	PRMRWSA Specification Review	10/1/2023 - 10/31/2023
	Contractor Selection/Well Construction Approval	11/1/2023 - 12/31/2023
	Construction and Testing (2 months per well)	1/1/2024 - 12/31/2024
	Borehole Geophysics	1/1/2024 - 12/31/2024
	Packer Testing	1/1/2024 - 12/31/2024
	Water Quality Sampling and Analysis	1/1/2024 - 12/31/2024
	Step and Constant Rate APTs	2/1/2024 - 12/31/2024
	Water Quality Analysis	2/1/2024 - 12/31/2024
	Well Completion Report	12/1/2024- - 1/31/2025
	PRMRWSA WCR Review	2/1/2025 - 2/28/2025
	Well Completion Report Submittal	3/1/2025 - 4/30/2025
Avon Park Formation Wells	Well Siting (Based on WUP)	7/18/2023 - 7/31/2023
	Technical Specifications Preparation	7/18/2023 - 9/30/2023
	PRMRWSA Specification Review	10/1/2023 - 10/31/2023
	Contractor Selection/Well Construction Approval	11/1/2023 - 12/31/2023
	Construction and Testing (2 months per well)	1/1/2024 - 12/31/2024
	Borehole Geophysics	1/1/2024 - 12/31/2024
	Packer Testing	1/1/2024 - 12/31/2024
	Water Quality Sampling and Analysis	1/1/2024 - 12/31/2024
	Step and Constant Rate APTs	2/1/2024 - 12/31/2024
	Water Quality Analysis	2/1/2024 - 12/31/2024
	Well Completion Report	12/1/2024- - 1/31/2025
	PRMRWSA WCR Review	2/1/2025 - 2/28/2025
	Well Completion Report Submittal	3/1/2025 - 4/30/2025



SECTION 5. WELL CONSTRUCTION CONTRACTOR APPROACH

Well Construction Contractor Approach

BIDDING AND CONSTRUCTION SERVICES

Design, permitting, bidding services, and construction supervision will be provided for all well construction approved by the Authority and for all test wells, brackish supply wells, and Class I injection well systems as part of this project. Detailed technical specifications will be prepared, necessary permits obtained from the applicable regulatory agencies, and a formal bidding process will be conducted to obtain the services of qualified contractors (while CHA has teamed with 2 well drillers our team has worked with previously, should the Authority desire, we are prepared to solicit other drillers). If the Authority determines that a change in wellfield configuration, withdrawal quantities, and/or well specifications is necessary during the 30% design period, Water Science will update the technical specifications accordingly and provide technical and regulatory support for modification of the Authority's WUP to increase quantities and add production wells.

For new supply wells, permitting may entail modifying the Authority's SWFWMD water use permit (WUP) based on site-specific conditions, including utilizing the DWRMv4 model. The proposed Class I injection well system will entail obtaining underground injection control (UIC) construction permit from the Florida Department of Environmental Protection (FDEP) to construct the wells and obtain operating permits. For all FDEP-permitted well construction, weekly reports will also be prepared and sent to the FDEP. Completion reports and operation manuals will also be prepared. During the construction of any brackish and Class I injection well, a Water Science or ASRus project hydrogeologist will be on-site, working under a Florida Licensed Professional Geologist throughout the drilling and testing to collect and analyze data and provide daily reports of construction activities.

Water Well Contractor

A Florida-licensed water well contractor will complete water well construction following the project's technical specifications completed by Water Science and ASRus. Our Hydrogeologists will also provide direct hydrogeologic oversight of the well construction activities to ensure that the well construction meets the intent of the specifications and is compliant with all applicable regulations. The hydrogeological staff will work closely with the water well contractor in determining the final casing depth, appropriate grouting methods and volumes, and open hole interval based on the site-specific lithologies encountered during the well construction process. Upon completion of the well, we will conduct a series of production tests of well yield and aquifer characteristics and water quality to ensure that the completed system meets all project objectives for reliability, sustainability, and operational efficiency.

For this project, we have teamed with Huss Drilling, Inc. (Huss) of Dade City, Florida. Huss Drilling, experts in Florida drilling services, was formed in 1990 with the mission to provide geologists, engineers, and environmental scientist quality Florida drilling services, including environmental drilling, geotechnical drilling and exploration drilling. Water Science has an excellent relationship with the Huss family and commonly our first choice for Florida-licensed water well contractors. Additionally, Huss Drilling is well respected by all five water management districts (WMDs) and have been frequently contracted by them for their water well expertise.

Injection Well Contractor

The injection well construction will be completed by a Florida-licensed water well contractor following the technical specifications completed by our hydrogeologists for the project. Our hydrogeologists will again provide direct hydrogeologic oversight of the well construction activities to assure that the well construction meets the intent of the specifications and is compliant with all applicable regulations and will work closely with the water well contractor in determining final casing depth, appropriate grouting methods and volumes, and open hole interval based on the site-specific lithologies encountered during the well construction process. Differing from the water well construction, during the construction of the injection well, the contractor under the oversight of our hydrogeologists will complete a series of air-lift specific capacity tests along with water quality test and

packer tests at selected depth intervals. These tests will provide valuable information regarding potential yield of the tested section of a formation and provide some insight to aquifer characteristics. Samples during drilling will be collected for lithologic descriptions and submittal to the Florida Geological Survey's (FGS) geologic core repository in Tallahassee, Florida.

Additionally, during construction, the casings, cementing, and open borehole will be evaluated with downhole geophysics as a means to provide additional hydrogeologic data and, secondarily, provide a means to evaluate the construction for quality control (i.e., plumbness, proper cementing of annulus, etc.). The injection well will be tested at the completion of construction to provide reasonable assurances that the well operates per the design.

For this project, we have teamed with Youngquist Brothers, LLC (YB) of Fort Myers, Florida. YB was formed in 1971 and services the injection well industry throughout the state of Florida. Ask any utility that has an injection well system or is considering an injection well system and they will tell you YB is the premier injection well contractor in Florida. Water Science and ASRus have an excellent relationship with YB, as our staff and their staff literally grew up together working on injection wells.

SECTION 6. REQUIRED FORMS

Key Personnel Chart (Attachment A)

Key Personnel	Key Staff Role on Design-Build Team	Employer	Years of Exp	Assigned Office City/State	Reference Project No. 1 Brackish RO WTP #2 (Clearwater)	Reference Project No. 2 RO WTF Expansion (Vero Beach)	Reference Project No. 3 6.0 MGD MF and RO WTP Addition (Bowling Green)	Spruce Creek WTP Membrane Replacement and Study (Volusia County)	CRUSA Water Production Facility (Polk County Utilities)	Southeast Regional WTP Major Upgrades (Seminole County)	Peace River Facility Capacity Optimization Study (DeSoto County)	Water Supply Improvements - Water Supply System Master Plan (FGUA)	Wellfield Design, Construction, and Management (Collier County Utilities)	Wellfield Design, Construction, and Management (City of Marco Island)	Injection System FY2023 Misc. Services (Englewood Water District)	North IW-2 Misc. Services (Manatee County)	Piney Point Injection Well System (Manatee County)
C.R. Reiss, PhD, PE	Project Manager; Water Treatment Process Task Lead	CHA Consulting	29	Winter Springs, FL	X	X	X	X	X	X							
B. Jones, PE	Client Service Manager	CHA Consulting	58	Tampa, FL													
G. Dunkelberger, PE, BCEE	Technical Advisor	CHA Consulting	45	Remote/FL	X	X	X	X	X	X							
J.R. Voorhees, PE, BCEE	Quality Manager	CHA Consulting	45	Winter Springs, FL		X			X								
A. Hanra, PE	Water Treatment Process; Water Treatment Design Task Lead	CHA Consulting	21	Tampa, FL													
B. Jensen, CEP	Cost Estimating	CHA Consulting	10	Remote/NC													
M. Worsham, PE	Water Treatment Design	CHA Consulting	34	Winter Springs, FL	X	X	X		X	X							
W. Haggen, PE, DBIA, ENV SP, PMP	Conveyance Task Lead	CHA Consulting	14	Tampa, FL													
P. Kerns, EI	Conveyance	CHA Consulting	11	Tampa, FL													
S. Hoxworth, PE	Conveyance	CHA Consulting	23	Winter Springs, FL	X	X	X	X	X	X							
A. Dethloff, PE	Pump Stations Task Lead	CHA Consulting	20	Tampa, FL					X								
E. Williamson, PE	Site/Civil Task Lead	CHA Consulting	8	Tampa, FL													
E. Talton, PE	Hydraulic Modeling Task Lead	CHA Consulting	33	Winter Springs, FL	X	X	X	X	X	X							
P. Pezeshk, PhD, PE	Hydraulic Modeling	CHA Consulting	6	Tampa, FL													
E. Martinez, PE	Electrical Engineering	CHA Consulting	41	Doral, FL													
C. Kuzler, PE	Assistant PM; QA/QC	Ardurra Group	37	Tampa, FL							X	X					
Y. Sun, PE, BCEE	Water Treatment Process	Ardurra Group	24	Houston, TX							X						
J. Greenburg, PE	Existing PRF Modifications Task Lead	Ardurra Group	36	Anderson, SC							X						
L. Truong, PE	Pump Stations	Ardurra Group	20	Tampa, FL								X					
N. Lynn, PE	Site/Civil	Ardurra Group	18	Tampa, FL													
B. Pernezny, PE	Stormwater	Ardurra Group	17	Tampa, FL													
B. Skidmore, PE	Ecological	Ardurra Group	32	Tampa, FL													
G. Baksis, PSM	Survey; SUE	Ardurra Group	17	Sarasota, FL													
K. Martin, PG	Hydrogeology - Supply Task Lead	Water Science Associates	40	Fort Myers, FL									X	X			
M. Alfieri, PG	Hydrogeology - Supply	Water Science Associates	25	Fort Myers, FL									X	X			
M. McNeal, PG	Hydrogeology - Disposal Task Lead	ASRus	38	Tampa, FL								X			X	X	X
P. Larkin, PG	Hydrogeology - Disposal Task Lead	ASRus	22	Tampa, FL											X	X	X
T. Burke, PE	SWFWMD Liaison	Applied Sciences Consulting	50	Tampa, FL													
P. Hoanshelt, PE	Electrical; I&C; SCADA	EMI	40	Groveland, FL	X	X	X	X	X	X							
J. Sobczak, PE	Structural	Wekiva Engineering	17	Winter Park, FL	X	X	X	X	X	X							
L. Moore, PE	Geotechnical	Tierra	34	Tampa, FL													
J. Antinori, PE	Geotechnical	Tierra	14	Tampa, FL													
R. Huss	Production Well Drilling	Huss Drilling	13	Dade City, FL													
T. Youngquist	Injection Well Drilling	Youngquist Brothers	50	Fort Myers, FL													
C.W. Musselwhite	Injection Well Drilling	Youngquist Brothers	30	Fort Myers, FL													X
Indicate (X) this row if the reference project was completed for the Authority																	X

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Consultant shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Consultant employees hired on and after January 1, 2021. Additionally, Consultant shall require all subconsultants performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Consultant must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement

Affidavit

I hereby certify that CHA Consulting, Inc. (Contract holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of CHA Consulting, Inc.'s (Contract holder) proof of registration in the E-Verify system is attached to this Affidavit.

3/6/2023
Signature Date

Thomas D. Titsworth
Print Name

STATE OF New York

COUNTY OF Albany

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 6th day of March, 2023 by Thomas D. Titsworth (name of officer or agent, title of officer or agent) of CHA Consulting, Inc. (name of Consultant company acknowledging), a New York (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ (type of identification) as identification.

Mary C. Schreiner
Notary Public

Mary C. Schreiner
Name typed, printed or stamped

My Commission Expires: 5/13/2026

MARY C. SCHREINER
NOTARY PUBLIC-STATE OF NEW YORK
No. 01SC5060223
Qualified in Albany County
My Commission Expires 05-13-2026

E-Verify

Welcome
Riley Simone

MENU

Company Information

Company Name
CHA Consulting, Inc.

Company ID Number
130989

Doing Business As (DBA) Name
--

DUNS Number
--

Physical Location

Address 1
III Winners Circle

Address 2
--

City
Albany

State
NY

Zip Code
12205

County
ALBANY

Mailing Address

Address 1
--

Address 2
--

City
--

State
--

Zip Code

--

Additional Information

Employer Identification Number
160966259

Total Number of Employees
500 to 999

Parent Organization
--

Administrator
--

Organization Designation

Employer Category
Federal Contractor without FAR E-Verify Clause

View / Edit

NAICS Code
541 - PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES

View / Edit

Total Hiring Sites
20

View / Edit

Total Points of Contact
1

View / Edit

View Original MOU Template

View MOU

Last Login: 05/17/2021 08:27 PM

U.S. Department of Homeland Security

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by Thomas D. Titsworth, Regional Counsel and Vice President
(Print individual's name and title)

for CHA Consulting, Inc.
(Print name of entity submitting sworn statement)

whose business address is 3507 East Frontage Road, Suite 180, Tampa, FL 33607

and (if applicable) its Federal Employer Identification Number (FEIN) is 16-0966259
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____).

2. I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

_X_ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives.

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

(Signature) 3/6/23 (Date)

STATE OF New York

COUNTY OF Albany

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 6th day of March, 20 23 by Thomas D. Titsworth as Regional Counsel and Vice President of CHA Consulting, Inc., a New York company organized under the laws of the State of New York, on behalf of the company who is personally known to me or has produced _____ as identification.

Notary Public

Mary C. Schreiner

Name typed, printed or stamped

My Commission Expires: 5/13/2026

MARY C. SCHREINER
NOTARY PUBLIC-STATE OF NEW YORK
No. 01SC5060223
Qualified in Albany County
My Commission Expires 05-13-2026

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: CHA Consulting, Inc.

Reference Entity: City of Clearwater, FL

Reference Contact Person: Tracey Mercer, Director at time of project (Currently with Town of Dundee

Reference Address: 202 East Main Street, Dundee, FL 33838

Reference Email Address: tmercer@townofdundee.com

Reference Phone No.: 863.370.2996

Project Name: Brackish Reverse Osmosis Water Treatment Plant #2

Project Location: Clearwater, FL

Consultant Project Manager: C. Robert Reiss, PhD, PE

Contract Amount: $3.4M

Date Project Commenced: 2010

Date of Final Completion: 2015

Description of Work Performed:

CHA assisted in designing and constructing the City of Clearwater's $40 million 6.25 MGD Reverse Osmosis Water Treatment Plant (RO WTP) No. 2 and raw water transmission mains. The project required permitting through local regulatory agencies, including the Florida Department of Environmental Protection, Pinellas County, Florida Department of Transportation, and U.S. Army Corps of Engineers (USACE). The project's objectives were to conserve water, produce high water quality from brackish and fresh groundwater, and design a state-of-the-art RO facility. The plant's design incorporated two treatment trains. Brackish groundwater blended with the concentrate from RO WTP No. 1 is treated via RO to reduce the salt concentration. The 5.25 MGD of permeate is then ozonated to oxidize sulfide. Freshwater is oxidized with chlorine and filtered to remove iron, which is blended with the ozonated permeate. As the freshwater has a high hardness and alkalinity, blending the freshwater and permeate results in stable water after minimum post-treatment. About 6.25 MGD of water is bulk purchased from Pinellas County via interconnects to Clearwater's system. Many of the wells have elevated total dissolved solids (TDS), sulfides, and iron. Raw water had to be piped to a treatment facility capable of removing TDS and iron before distribution to use this groundwater source. A network of more than 60,000 feet of new transmission main piping was required to transmit the raw water from the new wells to the RO WTP No. 2.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: CHA Consulting, Inc.

Reference Entity: City of Vero Beach, FL

Reference Contact Person: Robert Bolton, PE, Director, Water and Sewer Administration

Reference Address: 1053 20th Place, Vero Beach, FL 32960

Reference Email Address: rbolton@covb.org

Reference Phone No.: 772.978.5220

Project Name: Reverse Osmosis Water Treatment Facility Expansion

Project Location: Vero Beach, FL

Consultant Project Manager: C. Robert Reiss, PhD, PE

Contract Amount: $541K

Date Project Commenced: 2014

Date of Final Completion: 2018

Description of Work Performed:

The City of Vero Beach needed to increase the capacity of its 3.3 MGD reverse osmosis water treatment facility. The reverse osmosis skid was rated at 2.0 MGD, and the treatment facility's capacity needed to be expanded to 4.5 MGD to improve the finished water quality and decrease the operation of the lime softening plant. CHA provided design, permitting, bidding, and construction management services. Improving the reverse osmosis skid involved modifying the permeate header, adding valves and a flow meter to balance and control flows between Stage 1 and Stage 2, and installing piping associated with using five unused pressure vessels. Two 1.25 MGD reverse osmosis skids with high pressure pumps and variable frequency drives were added. The skids were designed to be expandable to 2.0 MGD each by adding pressure vessels and connection piping to the different headers designed for 2.0 MGD. The aging sulfuric acid and scale inhibitor feed systems were replaced to accommodate increased chemical demands due to the addition of the two membrane skids. Additional improvements included electrical upgrades, instrumentation and control modifications, additional programmable logic controllers and remote input/output panels, and finished water quality stability measurement system integration. A spreadsheet-based software was developed and integrated into the SCADA system to predict key post-treatment water quality parameters based on measured water quality and determine the water quality in response to potential treatment operation changes.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: CHA Consulting, Inc.

Reference Entity: City of Bowling Green, OH

Reference Contact Person: Brian O'Connell, Director of Public Infrastructure/Utilities

Reference Address: 304 North Church Street, Bowling Green, OH 43402

Reference Email Address: boconnell@bgohio.org

Reference Phone No.: 419.354.6246

Project Name: 6.0 MGD Microfiltration and Reverse Osmosis Water Treatment Plant Addition

Project Location: Bowling Green, OH

Consultant Project Manager: C. Robert Reiss, PhD, PE

Contract Amount: $279K

Date Project Commenced: 2011

Date of Final Completion: 2013

Description of Work Performed:

The City of Bowling Green expanded its WTP using an integrated membrane system (IMS) to treat reservoir water fed by the Maumee River. Integrating the RO membrane system into the WTP enabled blending finished plant water with a combination of integrated membrane treatment (MF/RO) and lime softening for a permitted flow of 11 MGD to meet Ohio Environmental Protection Agency (OEPA) water quality requirements. The new IMS treatment plant, consisting of microfiltration (MF) followed by low pressure reverse osmosis (LPRO), operates with the lime softening plant to increase capacity and improve finished water quality, especially in terms of disinfection byproducts (DBPs). CHA's pilot study report guided the engineering design of the WTP expansion and provided study results to meet OEPA regulatory requirements. The design included an integrated membrane process for treating the surface water source. The project included approximately 3,500 feet of 36-inch HDPE raw water piping to connect the new membrane facilities to the raw water reservoir. The membrane expansion facilities were designed for a build-out capacity of a 6.0 MGD addition to the existing treatment plant with a first phase installation of 3.0 MGD. CHA's responsibilities included onsite inspection, construction management, funding compliance support, facility startup, testing, commissioning, and OEPA certification. We performed a blending analysis to affirm stability and maximum use of the most efficient water technology. The study was used to implement the IMS to yield the best quality water at the most cost-effective range.

Addenda Acknowledgement

CHA has reviewed and acknowledges Addendum #1 released March 8, 2023.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Hon. Mike Moran, Sarasota County | Hon. Elton A. Langford, DeSoto County | Hon. Bill Truex, Charlotte County | Hon. George Kruse, Manatee County

Mike Coates, P.G., Executive Director

Request for Statements of Qualifications – Professional Services
for the
Peace River Brackish Groundwater Facility Project

Addendum 1

March 8, 2023

Responses to Question:

1. Question: After review of the Conflicts of Interest section in the Sample Agreement, the Consultant would like to clarify that it currently does work for the Authority as a subconsultant on other projects, and plans to continue pursuing other projects as a Prime Consultant for the Authority. In order to comply with the requirements of this section, the Consultant respectfully requests that the Authority please remove the last sentence from Section 5.14 "No Conflicts of Interest" which states that Consultant cannot be a prime consultant or subconsultant on other projects for the Authority during the term of this Agreement or for 90 days after the Agreement terminates. The Consultant sees no reason as to why it should be precluded from serving the Authority on multiple ongoing projects, so long as the Authority continues to put these projects out for any firms to bid on?

Response: The following sentence will be deleted from Section 5.14 of the Agreement, "Consultant will not participate as a prime consultant or a subconsultant on projects for the Authority during the term of this Agreement and for 90 days after this Agreement ends." The first sentence of Section 5.14 will remain in place.

2. Question: Would the Authority please remove any mention of a Fiduciary Duty or Fiduciary Relationship, or our acceptance of a relationship of "trust and confidence"? A licensed Design Professional cannot be a fiduciary to its client as it cannot be required to put a client's interests above the interests and safety of the public. Additionally, accepting this type of relationship would require the Consultant to accept a standard of care that exceeds the industry Standard of Care provided by licensed Design Professionals performing similar services in the area where the Project is located.

Response: Section 5.12, of the Agreement entitled Fiduciary Relationship will be removed and replaced with the following: "**5.12 Standard of Care**. Consultant shall perform the Services in a professional manner in accordance with applicable professional

standards consistent with that level of care and skill ordinarily exercised by other competent professionals with expertise in the type of services required in this Agreement practicing under similar conditions at the same time and locality of the Project.

3. Question: As currently worded, we believe that the indemnity provision Section 12 on page 9 of the Sample Agreement for Professional Services is not in compliance with FL Statute 725.08. Will you agree to reword the indemnification to conform with the statute, and include the following edits in red?

"Consultant shall indemnify and hold harmless the Authority, its officers, and employees, from and against any and all liabilities, damages, losses and costs (including but not limited to reasonable attorney fees) ~~arising out of or~~ to the extent caused by the negligence, recklessness or intentionally wrongful conduct of Consultant or any of ~~the~~ its Subconsultants or any other person or organization employed by or utilized by Consultant in the performance of Services under this Agreement. This indemnification shall also include all liability, damages, losses, and costs (including but not limited to reasonable attorney fees) arising out of or to the extent caused by any infringement of patents or copyrights incident to providing the Services required hereunder."

Response: Section 12, entitled Indemnification, will be removed and replaced with the following: "**Indemnification**. Consultant shall indemnify and hold harmless the Authority, and its officers and employees, from liabilities, damages, losses, and costs, including, but not limited to, reasonable attorneys' fees, to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the Consultant and other persons employed or utilized by the Consultant in the performance of the contract."

4. Question: Respondent requests the Authority's consideration of one change to the standard agreement language. Please revise Section "5.12 Fiduciary Relationship" to read as follows:

"5.12 Relationship. Consultant shall not knowingly take any action that would conflict with the interest of the Authority. Consultant shall deal with Authority in a fair and trustworthy manner. "

Reason for this request is that the implication of a "Fiduciary Relationship" could impose obligations that go beyond the standard of care and could create a conflict of interest with an engineer's duty of safety to the general public.

Response: See response to Question 2 above.

5. Question: Can we move the organizational chart to the beginning of Section 2, instead of at the end of Section 3?

Response: Respondents should provide all information requested in the Information Package issued by the Authority on February 10, 2023. That document requires Respondents to provide an Organizational Chart within Section 3 of their response.

Prepared for:
Peace River Manasota Regional
Water Supply Authority
9415 Town Center Parkway
Lakewood Ranch, FL 34202

For more information, contact:
Robert Reiss, PhD, PE
Project Manager
Office: 407.679.5358
CReiss@chacompanies.com

Kimley»Horn

Expect More. Experience Better.



PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Request for Statements Of Qualifications - Professional Services

PEACE RIVER BRACKISH GROUNDWATER FACILITY PROJECT

IWWT28010.2023

Table of **CONTENTS**

SECTION **PAGE**

0 Background 1

1 Project Manager and Management..... 5

2 Consultant Team's Engineering Experience 9

3 Consultant Team's Hydrogeologic Experience..... 17

4 Preliminary Project Understanding, Approach, and Schedule 28

5 Well Construction Contractor Approach..... 40

6 Required Forms 41

- Key Personnel Chart (Attachment A)
- E-Verify Affidavit and Required Evidence
- Signed Sworn Statement on Public Entity Crimes
- Reference Forms

SECTION 0

BACKGROUND



IWWT28010.2023

SECTION 0: BACKGROUND

The goal of the Peace River Manasota Regional Water Supply Authority (Authority) is to provide members, customers and partners with a robust and reliable supply of high quality drinking water and doing so in an environmentally responsible way. The Brackish Groundwater Facility project if implemented could provide a number of benefits to resiliency and water quality as discussed in our Statement of Qualifications. Our project manager, **Doug Eckmann, P.E.** has assembled the ***A-list*** of hydrogeologists, well construction contractors, brackish water treatment experts, wellfield, and water quality experts for this project.

Our professional team and approach to the project offer the following important advantages:

- Project Manager **Doug Eckmann, P.E.**, has worked with the Authority for years on previous major projects–and to assure meeting the Authority's schedule, will be supported by two highly-qualified Deputy Project Managers, **Ashley Miele, P.E.** and **Nick Black, P.E.**
- The institutional and technical knowledge of premier hydrogeological subconsultants—**ASRus, LLC (ASRus)** and **RESPEC, Inc. (RESPEC)**
- Water quality experts headed by **Stephanie Ishii Ph.D., P.E.** of **Hazen and Sawyer, P.C. (Hazen)**
- Commitments from well driller companies such as **Granite Construction, Inc. (Layne)** (water supply) and **Younquist Brothers, Inc. (Youngquist)** (DIW) to provide drill rigs on the Authority's timeline

We appreciate this opportunity to submit our Statement of Qualifications, invite your detailed review, and are prepared to begin the necessary hydrogeology immediately and at risk in order to meet the Authority's schedule.

1. Legal name, address, phone number of Consultant and e-mail of primary contact

Kimley-Horn and Associates, Inc.

1777 Main Street | Suite 200 | Sarasota, FL 34236

941.374.1010 | Douglas.Eckmann@kimley-horn.com

2. Principal office locations of submitting Consultant and any proposed partners/sub-consultants

Kimley-Horn and Associates, Inc. - Sarasota: 1777 Main Street | Suite 200 | Sarasota, FL 34236

Hazen and Sawyer, P.C.: 1000 N. Ashley Drive, Suite 1000 | Tampa, FL 33602

RESPEC, LLC: 2550 Green Forest Lane, Suite 101 | Lutz, FL 33558

ASRus, LLC: 13329 N. Armenia Avenue | Tampa, FL 33613

RKS Consulting Engineers, Inc.: 12651 McGregor Blvd, Suite 4-402 | Fort Myers, FL 33919

Hyatt Survey Services, Inc.: 2012 Lena Road | Bradenton, FL 34211

3. Legal form of company, i.e., partnership, corporation, joint venture, (if joint venture, identify the members)

Corporation

4. Copy of Florida Professional Licenses as applicable (business and/or individual)

Note: Due to page limitations, only individual licenses for key individuals have been provided.

KIMLEY-HORN BUSINESS LICENSES


THE OFFICIAL SITE OF THE FLORIDA DEPARTMENT OF BUSINESS & PROFESSIONAL REGULATION

dbpr Department of Business & Professional Regulation

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LICENSEE DETAILS
10:33:17 AM 12/14/2021

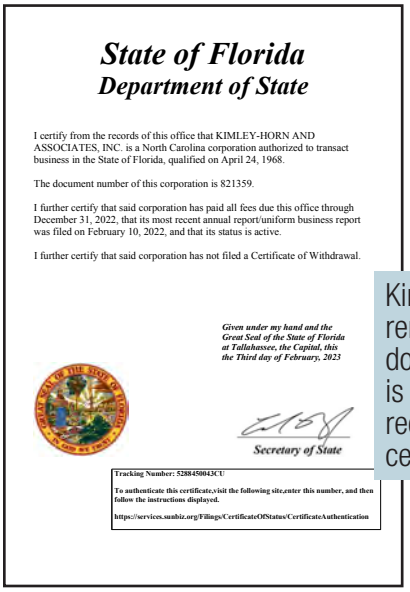
Licensee Information

Name:	KIMLEY-HORN AND ASSOCIATES, INC. (Primary Name)
	KIMLEY-HORN AND ASSOCIATES, INC. (DBA Name)
Main Address:	421 FAYETTEVILLE STREET SUITE 600 RALEIGH North Carolina 27601
County:	OUT OF STATE

License Information

License Type:	Registry
Rank:	Registry
License Number:	35106
Status:	Current
Licensure Date:	05/10/2021
Expires:	

On October 1, 2019, HB827/SB616 went into effect, creating the rules for Administrative Code 61G15, which removes the requirement that engineers obtain a separate engineering business license (certificate of authorization) for their engineering firm.


State of Florida
Department of State

I certify from the records of this office that KIMLEY-HORN AND ASSOCIATES, INC. is a North Carolina corporation authorized to transact business in the State of Florida, qualified on April 24, 1968.

The document number of this corporation is 821359.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on February 10, 2022, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

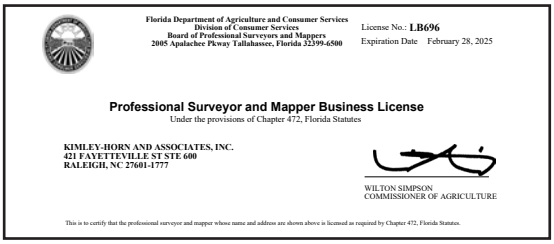
Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Third day of February, 2023

Secretary of State

Tracking Number: 5288450043CU

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication


Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkway Tallahassee, Florida 32399-6500

License No.: **LB696**
Expiration Date February 28, 2025

Professional Surveyor and Mapper Business License
Under the provisions of Chapter 472, Florida Statutes

KIMLEY-HORN AND ASSOCIATES, INC.
421 FAYETTEVILLE ST STE 600
RALEIGH, NC 27601-1777

WILTON SIMPSON
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.

Kimley-Horn has renewed these documents and is waiting to receive the new certificates.

HYATT SURVEY SERVICES, INC. BUSINESS LICENSES


State of Florida
Department of State

I certify from the records of this office that HYATT SURVEY SERVICES, INC. is a corporation organized under the laws of the State of Florida, filed on August 5, 2002.

The document number of this corporation is P02000084715.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on January 31, 2022, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

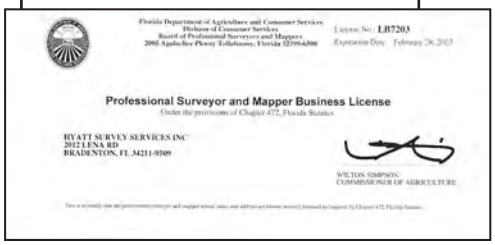
Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Thirty-first day of January, 2022

Secretary of State

Tracking Number: 4593916894CC

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

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Professional Surveyor and Mapper Business License

HYATT SURVEY SERVICES INC
2012 LENA RD
BRADENTON, FL 34211-9509

WILTON SIMPSON
COMMISSIONER OF AGRICULTURE

ASRUS, LLC BUSINESS LICENSES


State of Florida
Department of State

I certify from the records of this office that ASRUS, LLC is a limited liability company organized under the laws of the State of Florida, filed on March 24, 2006.

The document number of this limited liability company is L06000030951.

I further certify that said limited liability company has paid all fees due this office through December 31, 2023, that its most recent annual report was filed on January 26, 2023, and that its status is active.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twenty-sixth day of January, 2023

Secretary of State

Tracking Number: 8377334470CC

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

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HAZEN AND SAWYER, P.C.
BUSINESS LICENSES



State of Florida
Department of State

I certify from the records of this office that HAZEN AND SAWYER, P.C. is a New York corporation authorized to transact business in the State of Florida, qualified on October 18, 1978.

The document number of this corporation is 841657.

I further certify that said corporation has paid all fees due this office through December 31, 2023, that its most recent annual report/uniform business report was filed on January 24, 2023, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Twenty-fourth day of January, 2023

Secretary of State

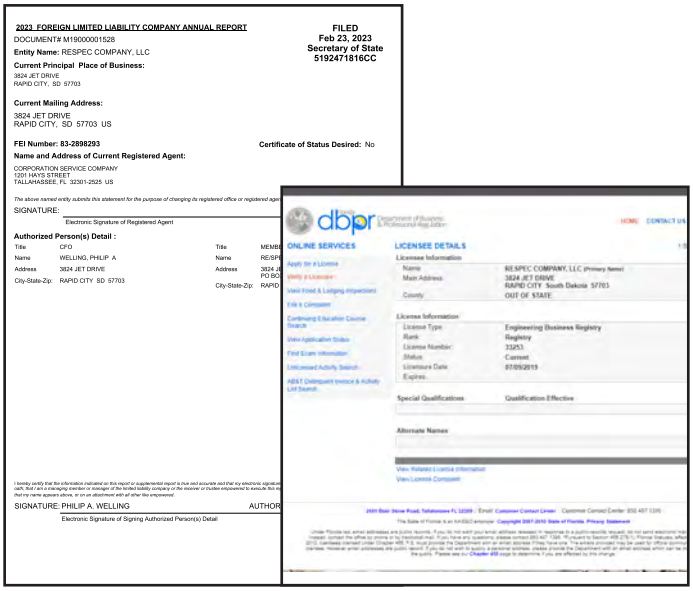
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To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

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Pending receipt of new certificate.

RESPEC COMPANY, LLC
BUSINESS AND STAFF LICENSES



2023 FOREIGN LIMITED LIABILITY COMPANY ANNUAL REPORT

FILED
Feb 23, 2023
Secretary of State
5192471816CC

DOCUMENT# M19000001528

Entity Name: RESPEC COMPANY, LLC

Current Principal Place of Business:
3824 JET DRIVE
RAPID CITY, SD 57703

Current Mailing Address:
3824 JET DRIVE
RAPID CITY, SD 57703 US

FEI Number: 83-2898293

Certificate of Status Desired: No

Name and Address of Current Registered Agent:
CORPORATION SERVICE COMPANY
1201 HAYS STREET
TALLAHASSEE, FL 32301-2525 US

SIGNATURE:
Electronic Signature of Registered Agent

Authorized Person(s) Detail :

Title	CFO	Title	MEMBE
Name	WELLING, PHILIP A	Name	RE/SPE
Address	3824 JET DRIVE	Address	3824 JE PO BO
City-State-Zip:	RAPID CITY SD 57703	City-State-Zip:	RAPID

SIGNATURE: PHILIP A. WELLING AUTHOR
Electronic Signature of Signing Authorized Person(s) Detail

dbpr — ONLINE SERVICES — LICENSEE DETAILS

Licensee Information
Name: RESPEC COMPANY, LLC (Primary Name)
Main Address: 3824 JET DRIVE, RAPID CITY South Dakota 57703
County: OUT OF STATE

License Information
License Type: Engineering Business Registry
Rank: Registry
License Number: 33253
Status: Current
Licensure Date: 07/05/2019
Expires:

Special Qualifications: Qualification Effective

Alternate Names

RKS CONSULTING ENGINEERS, INC.
BUSINESS LICENSES



State of Florida
Department of Florida

I certify from the records of this office that RKS CONSULTING ENGINEERS, INC. is a corporation organized under the laws of the State of Florida, filed on January 28, 1999.

The document number of this corporation is P99000009785.

I further certify that said corporation has paid all fees due this office through December 31, 2023, that its most recent annual report/uniform business report was filed on January 28, 2023, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

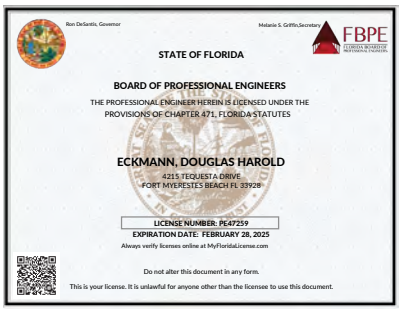
State of Florida

Woman Business Certification

RKS Consulting Engineers Inc

June 12, 2022 — June 12, 2024

KEY INDIVIDUAL LICENSES



Ron DeSantis, Governor — Melanie S. Griffin, Secretary — FBPE

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

ECKMANN, DOUGLAS HAROLD
4215 TEQUESTA DRIVE
FORT MYERS/TES BEACH FL 33928

LICENSE NUMBER: PE47259
EXPIRATION DATE: FEBRUARY 28, 2025
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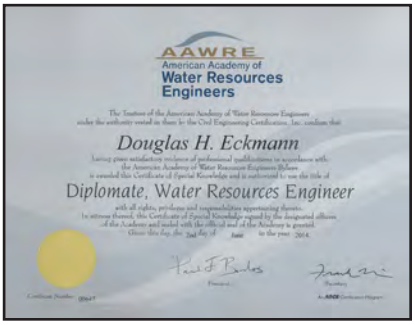
The American Academy of Environmental Engineers

having carefully considered the education, professional experience and established competence of

Douglas H. Eckmann

issues this Certificate of Qualification as a

Diplomate
in the specialty
Water Supply/Wastewater



AAWRE
American Academy of Water Resources Engineers

Douglas H. Eckmann

Diplomate, Water Resources Engineer



5. Disclosure of whether Consultant or partner/subconsultants currently represents Charlotte, DeSoto, Manatee, or Sarasota counties, or the City of North Port (Customers), in any way.

Kimley-Horn has provided engineering services on a variety of projects for Charlotte, DeSoto, Manatee, and Sarasota Counties, as well as the City of North Port. **Hazen** currently has engineering contracts with Charlotte, Manatee, and Sarasota Counties. **RESPEC** is currently contracted with Sarasota County as part of their "Groundwater Management Services" Library. **ASRus** currently has a prime contract with Manatee County to install the Piney Point injection well and has other subcontracts with multiple firms to assist with hydrogeologic work for the County; ASRus has a subcontract with an engineering firm to provide injection well services for Sarasota County; ASRus has held recent subcontracts with an engineering firm to perform hydrogeologic work for Charlotte County; ASRus has done previous hydrogeologic work with the City of North Port under an engineering firm; ASRus has not worked for DeSoto County. **Hyatt Survey Services (Hyatt Survey)** and **RKS Consulting Engineers (RKS)** do not currently represent any of the above customers in any way.

6. Disclosure of any litigation Consultant or partner/subconsultants is involved in against any of the Authority Customers (listed above), either directly or retained for testimony and expertise on behalf of any other entity in litigation against the Authority or any of its Customers.

Kimley-Horn is not involved in any litigation against the Authority or its Members, Customers, or Partners, nor have we been retained as an expert on behalf of any other entity against the Authority or its Customers. **ASRus**, **Hyatt Survey**, **RKS**, **RESPEC**, and **Hazen** have no litigation, present or past.

SECTION 1

PROJECT MANAGER AND MANAGEMENT



IWWT28010.2023

SECTION 1: PROJECT MANAGER AND MANAGEMENT

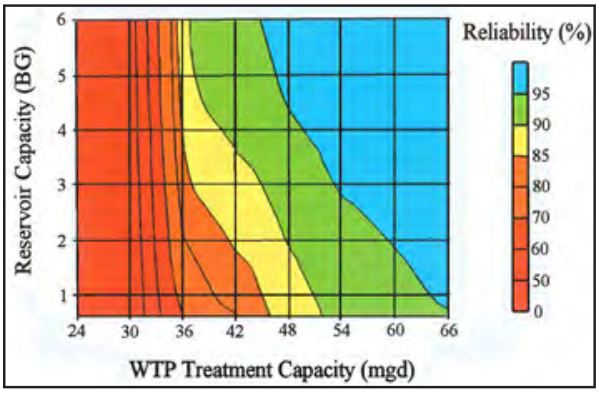
Project Manager

The Project Manager for the Kimley-Horn team will be Doug Eckmann, P.E., BCEE, D.WRE. Doug has assembled what we believe is the A-list of consultants specifically picked for their unique expertise relevant to the Authority's Brackish Groundwater Facility project.

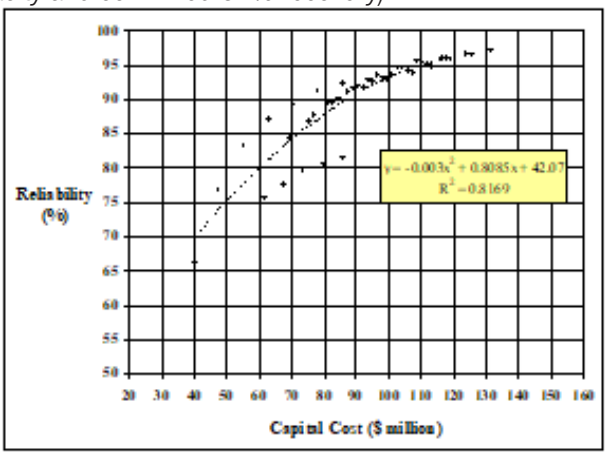
Doug has worked with the Authority on major projects since serving as the design consultant's Project Manager for the Peace River Option. In planning that project and the subsequent Regional Expansion, Doug's team introduced the concept of system reliability based on weathering severe (*worst on record since 1932*) back-to-back droughts and the concept of an asymptotic relationship between the capacities and, therefore, cost of the system components and the percentage of time that the Authority can guarantee water supply contracts given extrapolated flow statistics in the Peace River and rules of the Water Use Permit (*Law of Diminishing Returns*). This concept has been refined and advanced by the Authority and **Hazen**, our partner for this project.

Doug's qualifications include experience as the design consultant's Project Manager for the original greenfield T. Mabry Carlton Jr. EDR (electrodialysis reversal) WTP and 11-mile, 11 well, wellfield designed by Boyle Engineering.

The Carlton facility is a component of the regional water supply system that complements the Peace River surface facility and the Lake Manatee surface facility with a 12.0 expanded to 15.0 MGD brackish groundwater treatment plant interconnected by a regional transmission system. EDR was selected for this project because of the very high recovery efficiency (85%+) in order to maximize the benefit of Sarasota County's WUP (*acceptance testing at full 12.0 MGD capacity and confirmed 87% recovery*).



From the Regional Expansion Program planning, analyzing the optimum combination of system components (raw surface water pumping capacity, reservoir size, treatment capacity, and ASR wellfield storage capacity)



100% reliability cost is two times the 90% reliability cost (from Peace River Option planning)



DOUGLAS ECKMANN, P.E., BCEE, D.WRE

Project Manager/Director; Lead Consultant - Brackish Water Supply System Integration

Office: Fort Myers, FL

SPECIAL QUALIFICATIONS

- 40 years experience in the planning, design, and construction of public water systems, including EDR, RO, and conventional surface water treatment plants, production wellfields, pumping stations, storage tanks, and pipelines
- Previous experience as Project Manager for planning, design, and designer's services during construction of new public water system for Sarasota County (new 12 MGD), the City of Oldsmar (new 5.0 MGD), and Peace River Authority 12 to 51 MGD. Included water production wells and well field infrastructure, ASR wells, injection wells, treatment plants, brackish water pumping, wellfield pipelines, transmission mains, and high service pumping, and storage

PROFESSIONAL CREDENTIALS

- MBA, Economics, St. Edwards University
- Bachelor of Science, Mechanical Engineering, Northwestern University
- Professional Engineer in Florida, #47259
- Board Certified Environmental Engineer #88-10054 (AAEES)
- Board Certified Water Resource Engineer #00647 (AAWRE)
- Life Member, American Water Works Association (AWWA)
- Founding Member, Southeast Desalting Association (SEDA)
- Fellow, American Society of Civil Engineers (ASCE)

Relevant Experience

T. Mabry Carlton Jr. Reserve Water Treatment Plant and Wellfield Collection System, Sarasota County, FL — Project Manager for the centerpiece of the Sarasota County Water Improvement Program (WIP). This 12.0 MGD, subsequently expanded to 15.0 MGD, facility is the largest Electrodialysis Reversal water treatment plant in the world. The project is located within a 32,000-acre reserve purchased by the County for development of water resources and as a nature preserve. The facilities included 11 production wells, access road, and a seven-mile brackish water transmission pipeline. The EDR equipment is housed in a 63,000-sq ft main process building that includes a computer center for water system SCADA, administrative offices, and laboratory. Full capacity standby power system was designed in cooperation with Florida Power & Light for automatic load shedding. During start-up performance testing the design recovery of 85% was confirmed. Controls included an operations Decision Support System (DSS) to help blend rotating wells for optimum brackish water utilization and recovery.

The Sarasota County Water Improvement Program was awarded the Grand Conceptor Award for Engineering Excellence by the Florida Institute of Consulting Engineers (FICE).

Project received the Engineering Excellence Award for the design of the Carlton EDR water treatment plant from the American Membrane Technology Association (AMTA).

Peace River Manasota Regional Water Supply Authority ASR Expansion, Sarasota, FL — Project Manager for the Peace River Facility/ASR Expansion Project. This project included an expansion of the surface water treatment plant to 24 MGD capacity and the addition of 12 new ASR wells. The Peace River Manasota Regional Water Supply Authority (Authority) implemented the Peace River Option to provide potable water to Charlotte, DeSoto, and Sarasota counties, Florida. The Peace River Option involved two separate projects: the expansion of an existing water treatment and ASR wellfield Peace River Facility/ASR Expansion Project and 23-mile transmission pipeline connecting to the T. Mabry Carlton WTP Regional Transmission System Expansion Project. The Peace River Option was constructed under four separate contracts: Contract 1 – ASR Well Drilling; Contract 2 – Facility Pipelines; Contract 3 – Facility /ASR Expansion; and Contract 4 – Regional Transmission Pipeline.
The Peace River Water Treatment Facility relies on innovative aquifer storage-recovery wells to store potable water underground for later use when flows in the Peace River are low. Boyle designed expansion involved increasing the capacity of the water treatment plant from 12 MGD to 24 MGD, increasing the capacity of river diversion pumps from 24 MGD to

36 MGD, and installing 12 new aquifer storage and recovery wells, bringing the total to 21. Major features of the plant expansion include brackish water pumps, filters, coagulation-sedimentation-filtration (CSF) process basins, chemical feed systems, above ground storage tanks, and high-service pumps. Construction of the new wellfield included well drilling, surface pump house, surge protection, transmission piping to the water treatment plant, underground power supply, and wellfield access road.

The Peace River Option received the National Environmental Excellence Award for Environmental Stewardship from the National Association of Environmental Professionals (NAEP). The Peace River Option received the Sustainable Florida Award presented by the Council for Sustainable Florida.

Oldsmar Water Supply Project, Oldsmar, FL — Project Manager Phase II and Principal-in-Charge. Work included the design and construction of two pilot production wells and a treatability evaluation using a skid mounted pilot plant. Program funded by SWFWMD and led to the subsequent design and construction of a new water supply with six remote well sites and new RO water treatment plant. Previously all the city's water supply was purchased from Pinellas County. The project was cooperatively funded by the SWFWMD because of the contribution to the regional water supply resources. Eleven brackish groundwater supply wells provide brackish water with TDS ranging from 1,300 to 5,800 mg/L. The facility is designed to produce up to 5.0 MGD RO permeate but was initially permitted for 2.0 MGD RO permeate based on limitations of the groundwater withdrawal permit. Design recovery is 75% with up to 10% bypass to provide alkalinity. Treatment consists of cartridge filters, three RO skids, permeate is fluoridated and CO2 injection used to lower pH for hydrogen sulfide stripping through two degassifiers. Finished water is stored in two 1.0 mg storage tanks and further treated with CO2 and NaOH to stabilize the water. Disinfection is with sodium hypochlorite and polyphosphate is added to the distributed water for corrosion control. RO concentrate is disposed of by dilution into the reclaimed water system.

Design and construction in accordance with Leadership in Energy and Environmental Design (LEED). The new Oldsmar RO WTP earned LEED Silver Certification, becoming the first LEED certified RO WTP in Florida.

Peace River Manasota Regional Water Supply Authority (Authority), Administrative Office, Lakewood Ranch, FL — Principal-in-Charge and Project Manager for design and services during construction for a 27 MGD expansion to the Peace River Regional Water Supply Facility increasing capacity to 51 MGD. This $85,000,000 project included 27 MGD capacity PAC contact, flocculation, coagulation, sedimentation basins, 14 new declining rate gravity filters, chemical storage and feed facilities, sludge dewatering facility, improvements to the brackish water pumping station increasing capacity to 120 MGD, 54 MGD reservoir return pumping, new north regional high service pumping station with 28 MGD installed capacity, advanced surge protection for large capacity regional transmission lines, three new 2.0 mg storage tanks, a new 30 MGD North Regional High Service Pumping Station, site and drainage improvements and roadways. Total change orders 0.8%. Owner direct purchase of $18 million major equipment saved $1.2 million in sales tax.

Project received the 2011 FICE Grand Award for the planning, testing and design of a system to recover and treat stormwater from the construction of the companion project, a 6-billion-gallon reservoir (designed by others), in the partially constructed surface water treatment process. This saved the client over $10 million for the construction of a temporary treatment system and provided additional water supplies during a severe drought. High turbidity run-off was successfully treated in a facility designed primarily for color removal. Project also received ACEC 2011 National Recognition Award.

Project received the 2011 AAEE Excellence in Environmental Engineering (E3) Grand Award in Operations Management for maintaining full operation during worst drought on record.

Project Management Team and Approach

DEPUTY PROJECT MANAGERS

For this diverse, complex, and time critical project we propose a project management team with Deputy Project Managers **Ashley Miele, P.E.** and **Nick Black, P.E.** supporting Doug.

Ashley will manage the hydrogeological team and engineering team for well field surface facilities, roadway and access, site design, pipelines, pumping and storage, and general civil engineering. Essentially, Ashley will manage the professional services related "outside the fence" including site selection for the new WTP and DIW. Ashley's qualifications include serving as the design consultant's ***Project Manager*** for planning, design, and services during construction for the new ***North Port SWWTP***, an RO brackish groundwater facility designed for modular expansion to ***5.0 MGD*** finished water capacity. **Lance Littrell, P.E.**, a key team member, was ***Engineer-of-Record (EOR)*** for the treatment plant. This work included all of the related water infrastructure, pumping, storage, wellfield facilities, and pipelines. A complicating feature is the anticipated increase in salinity of source water over time.

Nick will manage the treatment engineering team, including brackish process selection (RO, low pressure RO, or NF, or possibly EDR), pre-treatment, one- or two-stage process, energy recovery, degasification, stabilization, and disinfection. The supporting engineering for structural, electrical, I&C, post-treatment, blending, and distribution. Nick's qualifications include serving as the ***Project Manager and EOR*** for the recently completed ***11.0 MGD Wellington Brackish RO WTP*** and the nearly completed ***18.0 MGD Indian River County Brackish Nanofiltration (NF) Water Treatment Plant.***

ON TIME AND WITHIN BUDGET

Proof of Kimley-Horn's ability to deliver projects on an accelerated schedule is the new North Port SWWTP and the companion greenfield wastewater plant, the SWWWTP. These projects were delivered on an extraordinary schedule using a CMAR project delivery allowing for early work packages. The schedule for these projects was 3 months for preliminary design, 7 months for design, and 20 months for construction.

The best predictor of success is selecting the Kimley-Horn team!

TECHNICAL TEAM LEADERS AND KEY PERSONNEL

The management team is further organized by lead professionals who will manage their respective technical teams.

David Brown, P.G. will manage the hydrogeology and related professional services for implementation of the water supply wellfield including SWFWMD permitting, additional WUP permitting, groundwater modeling, evaluation of alternative wellfield design, production wellfield management to maintain water quality, optimization of well potential, aquifer performance testing program, and driller qualifications.

Pete Larkin, P.G. will manage the hydrogeology, interpretation of geological data, confinement, injection pressures, and related professional services for concentrate management and implementation of a deep injection well (DIW) for concentrate disposal.

Mark McNeal, P.G. will lead the DIW permitting with FDEP with an emphasis on the need to initiate this process as soon as possible to meet the Authority's schedule. Mark will also have the special task of helping to ensure that any new production, monitoring, and injection wells will not harm the performance of the Authority's existing potable water ASR system.

Stephanie Ishii, Ph.D., P.E., ENV SP will manage professional services provided by Hazen, including serving as the lead water quality engineer addressing brackish water, permeate, and blended water chemistry, quality, and compliance. She will also assist Doug and the team assigned to develop costs and assess the impact of an on-site groundwater facility of various capacities of the Peace River facility system's reliability at projected demand levels.

Lance Littrell, P.E., will work closely with the water quality engineers and hydrogeologists to assess the optimum level of treatment for the projected groundwater quality, brackish water TDS, and composition. He will also lead the review of the impact of a decline in water quality over time on the process systems and review of alternative brackish treatment technology.

Please also refer to the project team Organization Chart in Section 3, which highlights all personnel assigned to the Authority's Brackish Water Facility project.

SECTION 2

CONSULTANT TEAM'S ENGINEERING EXPERIENCE



IWWT28010.2023

SECTION 2: CONSULTANT TEAM'S ENGINEERING EXPERIENCE

1. Resumes of Key Personnel



ASHLEY MIELE, P.E.

Deputy Project Manager - Water Infrastructure; Lead Civil Engineer

Office: Sarasota, FL

SPECIAL QUALIFICATIONS

- Experienced in piping and pumping systems for water infrastructure, storage, and wellfield surface facilities
- Project Manager for the recently completed and fast-tracked North Port SWWTP, a 5.0 MGD (ultimate) brackish water treatment facility, wellfield infrastructure, and dual use DIW (at the companion SWWWTP); project delivered ahead of schedule (CMAR project delivery)
- Has been working with the Authority for over 5 years, was a Project Engineer for the Phase 2B/2C Route Analysis, and is currently Project Manager for the 60% design of the Phase 2B Regional Loop Pipeline (Progressive Design-Build project delivery)

PROFESSIONAL CREDENTIALS

- Bachelor of Science, Environmental Engineering, Roger Williams University
- Professional Engineer in Florida, #66476
- American Society of Civil Engineers (ASCE), Member
- Water Environment Federation (WEF), Member
- American Water Works Association (AWWA), Member

Relevant Experience

Southwest Water Treatment Plant (SWWTP), North Port, FL
Project Manager for the design and construction of a greenfield brackish water treatment plant located at the northwest corner of the intersection of the future West Villages Parkway and future Manasota Beach Road. The facility uses reverse osmosis (RO) membrane treatment and will be constructed in two phases equaling 5 MGD of finished water capacity. Due to an aggressive schedule, the selected delivery method was Construction Manager at Risk (CMAR). Kimley-Horn's engineering team prepared a Preliminary Design Report, WTP design and construction plans, source water hydraulic modeling and source water quality projections, as well as providing environmental and permitting services, brackish water wellhead and transmission main designs, and concentrate main design.

Peace River Interconnect and Potable Water Main, Sarasota County, FL — Project Manager and Engineer of Record. Managed design and construction phase services for 5 miles of 30-inch and 36-inch potable water transmission main that connects to the termination point of the Authority's Phase 3B pipeline.

West Villages Improvement District (WVID) Booster Pumping Station and Ground Storage Tank, North Port, FL — Project Engineer. Managed engineering services, including conceptual design, final design, permitting, and construction phase services for this 6 MGD potable water pumping station. The facility includes high-service pumps, a 1 MGD concrete ground storage tank, and room for future expansion.

Southwest Water Treatment Plant (SWWTP) Offsite Water Infrastructure, North Port, FL — Project Manager for engineering planning, design, permitting, and construction phase services for approximately 1.8 miles of 12" reclaimed water main; 2.5 miles of 10", 16", and 20" brackish water mains; and 2.25 miles of 12" concentrate pipelines within the City of North Port. These offsite utilities were executed as a Construction Management at Risk (CMAR) project. A route analysis was developed to evaluate several corridors for each pipeline, providing cost-effective routing with least neighborhood impacts.

Peace River Manasota Regional Water Supply Authority (Authority) Reservoir Pumping Station Pump 10-P-4 Replacement, Arcadia, FL
Project Manager. The PRMRWSA 54 MGD reservoir pumping station (RPS) is used to transfer brackish water from Reservoir 1 to the Water Treatment Plant (WTP). The RPS consists of five (5) vertical turbine brackish water pumps (10-P-1 through 10-P-5). Services included performing an alternatives analysis on the replacement of pump 10-P-4. The analysis consisted of a hydraulic, electrical, and structural evaluation of the pumping station.



NICK BLACK, P.E.

Deputy Project Manager - Water Treatment; Lead Treatment Engineer

Office: West Palm Beach, FL

SPECIAL QUALIFICATIONS

- Software experience includes AutoCAD Civil 3D; Hydranautics; IMSDesign; ROSA9, Membrane Projections; and RS Means, Cost Works
- Extensive process and pump station experience, including wastewater pumping stations, in-line booster pump stations, water storage and repump stations, stormwater pump stations, and ancillary components of pumping facilities

PROFESSIONAL CREDENTIALS

- Bachelor of Science, Civil Engineering, University of Central Florida
- Bachelor of Science, Environmental Engineering, University of Central Florida
- Professional Engineer in Florida, #84908
- Professional Engineer in North Carolina, #046217
- American Public Works Association (APWA), Member
- American Water Works Association (AWWA), Member
- Board of Directors, Southeast Desalting Association

Relevant Experience

Indian River County Department of Utility Services South Oslo Road Water Treatment Plant Rehabilitation and Expansion Project, Vero Beach, FL — Project Manager, Engineer of Record. Indian River County owns and operates the South Oslo Road Water Treatment Plant, an 8.57 MGD nanofiltration and brackish water blend facility that serves the southern portion of Indian River County. The facility is antiquated and in need of major rehabilitation and replacement work. This project consisted of replacement of four 1.5 MGD NF trains with new, 1.875 MGD NF trains, modifications to the feed water piping to dedicate pump to a train, process piping replacement, chemical storage and feed system improvements, and new high service pump station to provide peak hour flow capabilities. This project also included major electrical replacement and rehabilitation work including a new power distribution panel, Automatic Transfer Switch Replacement, and conversion of existing air actuated valves to be electrically actuated.

Palm Beach County Water Utilities Department (PBCWUD) Water Treatment Plant #11 (WTP #11) Operational Improvements (fka Lake Region Brackish RO WTP), Palm Beach County, FL
Project Engineer. Kimley-Horn helped restore plant capacity and greatly improve operations at the 10 MGD Lake Region Reverse Osmosis (RO) Water Treatment Plant (WTP). Kimley-Horn was instrumental in helping restore plant capacity through enhancements to the WTP and operational improvements. Services includes the design of energy recovery improvements to the RO system and several operational changes to optimize system recovery. Enhancements to the SCADA system were also implemented, which allowed the automatic download of operating data to their normalization program, greatly reducing staff time needed to manage data.

Village of Wellington Water Treatment Plant (WTP) Development and Rehabilitation, Wellington, FL — Project Manager and Engineer-of-Record. Kimley-Horn assumed the role from another consultant to complete improvements to the Village of Wellington's water treatment plant, including adding high-service pumps; rehabilitating the old HS building; relocating or replacing existing electrical equipment; updating the plant-wide SCADA system; replacing trench piping supports; adding a membrane train; re-membrane of four existing trains; reconfiguring cleaning headers; providing new bulk and day fuel tanks; updating the sodium hypochlorite system; adding a new fluoride feed system; expanding and upgrading the control room and operator facilities; and other services as required.

Martin County Utilities, Martin County, FL — Project Engineer. Martin County Utilities owns and operates the North Jensen Water Treatment Plant, a low pressure brackish reverse osmosis (RO) water treatment facility. A combination of 10-year-old membranes and declining brackish water quality from the Floridan aquifer led to difficulties meeting the rated treatment capacity. To address these deficiencies and improve operating efficiencies of the RO skids, the Kimley-Horn team developed bid documents for membrane replacement along with implementation of energy recovery turbines which utilize interstage boost.



LANCE LITTRELL, P.E.

Brackish Water Treatment Alternatives Evaluation

Office: Orlando, FL

SPECIAL QUALIFICATIONS

- Experience includes the planning, management, design, start-up and construction of reverse osmosis and ultrafiltration water treatment plants for municipal utilities
- Municipal experience includes a portfolio of planning, design, construction administration, start-up services, and operations assistance
- Prior experience in mechanical design and fabrication of membrane treatment systems

PROFESSIONAL CREDENTIALS

- Master of Business Administration, University of Central Florida
- Bachelor of Science, Mechanical Engineering, Old Dominion University
- Professional Engineer in Florida, #65645
- Professional Engineer in Ohio, #79857
- American Membrane Technology Association (AMTA), Member
- American Water Works Association (AWWA), Member
- Southeast Desalting Association (SEDA), Past President

Relevant Experience

8.0 MGD RO Water Treatment Plant Expansion for Town and Country Utilities, Babcock Ranch, FL — Engineer-of-Record for design the brackish water treatment plant modular expansion from 1.0 MGD to 8.0 MGD permeate to support phased development. Kimley-Horn designed and permitted the complete treatment plant to include up to 8.0 MGD finished water, 10 additional water supply wells, pre-treatment, post-treatment stabilization and hydrogen sulfide removal (H2S rejection), transfer pumps, potable water storage expansion and high service pumping. The new RO treatment plant enhances an existing nanofiltration treatment facility designed by others. Concentrate management includes blending concentrate with reclaimed water and combined with a deep injection well. Due to an aggressive schedule, the Construction Manager at Risk (CMAR) delivery method was selected.

Palm Beach County Water Utilities Department (PBCWUD) Water Treatment Plant #11 Operational Improvements (Lake Region Brackish RO WTP), Palm Beach County, FL — Project Manager for restoring lost treatment capacity and improving operations of the 10 MGD Lake Region RO WTP #11, a brackish water treatment facility. The facility is challenged with a rapid decline in brackish water quality (increasing TDS) and the Kimley-Horn team was able to restore plant capacity through enhancements to the RO process and improved operations including design and implementation of an energy recovery system. The team identified piloted superior membranes and performed an enhanced post treatment system evaluation. The membrane pilot testing included multiple membranes evaluation, assessment of the performance of alternative scale inhibitors, and the first alternative H2S rejection testing in the industry in order to identify the optimum membrane elements for long-term operation.

Martin County Tropical Farms 14.0 MGD Brackish Water Treatment Plant Expansion, Stuart, FL — Project Manager for the development of an alternative water supply critical to Martin County's growing water supply issues. The Kimley-Horn team developed a new Floridan aquifer water supply for an 8.0 MGD low pressure brackish water reverse osmosis treatment system with the needed capacity. The treatment system included a state-of-the-art interstage pressure boost using energy recovery turbines that resulted in an 85% recovery, one of the highest brackish water recovery systems known in the industry. Recently, our team evaluated a treatment method, which would reduce the organics in the surficial aquifer using anion exchange.

West Villages Improvement District (WVID) Southwest Water Treatment Plant, North Port, FL
Engineer of Record for the design of a water treatment plant to supply 5.0 MGD of potable water to the growing community and the City of North Port. The facility utilized Floridan aquifer production wells drilled ten years prior. Due to the increasing salinity in nearby wells, water quality decline was projected, and the RO process was pre-configured to accommodate a decline in water quality from a brackish range of 2,500 mg/L TDS up to 13,000 mg/L TDS. The design incorporated seawater level membrane elements to achieve the near-and long-term treatment goals. The plant design included a two-phase buildout with the first phase totaling 2.0 MGD and the second phase raising the permitted capacity to 5.0 MGD.



Stephanie Ishii, Ph.D., P.E., ENV SP

OASIS Reliability Model; Post-Treatment and Distribution Water Quality

Location: Tampa, FL

Education

PhD, ME, BS, Environmental Engineering, University of Florida, 2015, 2012, 2009

Certification/License

Professional Engineer: FL

Envision Sustainability Professional (ENV SP)

Areas of Expertise

- Water and Wastewater Treatment
- Life Cycle Cost Analysis
- Sustainability
- Water Reuse
- Nutrient Recovery
- Survey Construction and Public Perception

Experience

- 11 total years
- 8 years with Hazen

Professional Activities

American Water Works Association

Water Environment Federation

PRMRWSA OASIS Classic Model Development and Scenario Evaluation, Arcadia, FL
Project Manager for development of OASIS, a mass balance, water resources simulation/optimization model that explores the long-term reliability implications of various capital and operational decisions, such as different supply and treatment capacities, under current and future conditions.

Tampa Bay Water Source Water Protection Framework, Clearwater, FL
Project Manager for development of a framework to prioritize and track source water activities based on anticipated impact on source water usability. A protocol and PowerBI dashboard were developed to identify raw water quality parameters of interest that may limit source water usability and evaluated the extent to which these parameters are controllable by water of regulation, watershed restrictions, and stakeholder engagement.

Tampa Bay Water SWTP Expansion Feasibility Study, Clearwater, FL
Project Engineer responsible for further evaluating the feasibility of optimizing and expanding the existing regional SWTP. Dr. Ishii conducted historical evaluations, bench-scale experiments, and full-scale stress testing to determine improvement opportunities and expansion needs.

PRMRWSA Water Quality Master Plan, Arcadia, FL
Project Engineer for assessment of current and future provision of high-quality water based on source water conditions, a regulatory outlook, and anticipated regional activity. She evaluated blending of supplies in the system and projected impacts related to water age, disinfectant stability, and corrosion control. She developed recommendations for improvements and explored implications of regional water quality standards.

PRMRWSA Disinfection of Surface Water for ASR, Arcadia, FL Dr. Ishii evaluated the feasibility of achieving microbial and chemical water quality standards in partially treated surface water for aquifer recharge. She developed a testing program involving disinfection via UV, chlorine, chlorine dioxide, chloramines, and ozone. It favored chloramination with respect to disinfection and disinfection byproduct formation.

Analysis of Alternative Water Supply Projects as Compared with Direct Potable Reuse, Water Research Foundation, Alexandria, VA
Hazen helped to develop a specialized triple bottom line methodology and associated tool for water supply planning that quantifies the burdens and benefits of different water supply options, capturing the economic, environmental, and community-related impacts that result from treatment, conveyance, and other elements that are unique to each alternative.

Hazen

2. Project Examples

REFERENCE PROJECT NO. 1: SOUTHWEST 5.0 MGD RO WATER TREATMENT PLANT

North Port, FL

Client: West Villages Improvement District and the City of North Port

Project Status: Ongoing

Budget: $43M Construction

Completion Date: March 2023

Personnel on Project: Lance Littrell, P.E. (Engineer of Record); Ashley Miele, P.E. (Project Manager); Doug Eckmann, P.E., BCEE, D.WRE (Project Engineer Advanced Materials); Mark McNeal, P.G. (Lead Hydrogeologist DIW)

Kimley-Horn provided the technical design for the greenfield reverse osmosis (RO) water treatment plant (WTP) with both the West Villages Improvement District (WVID) and the City of North Port as the ultimate owners of the facility. The design included water sand strainers, cartridge filters, and chemical addition for pretreatment before the RO membrane treatment process. The RO treatment process was broken into two trains of 1.0 MGD each and expandable to 2.5 MGD each. The piping, frames, pumps, valves, and equipment were selected and sized to provide for the Phase 1 design's ultimate expansion with minimal adjustments to the treatment trains. The expansion will incorporate a modular addition to the treatment trains that are isolated via valves and supports to maintain the full operation of the Phase 1 component up until the short shutdown to tie in the ultimate train capacity. The post-treatment process included forced draft aerators, biological odor scrubbers, chemical stabilization, and 4-log virus removal followed by finished water ground storage tanks. The stabilization chemicals included carbon dioxide, sodium hydroxide, and corrosion inhibitor and disinfection with chlorine followed by ammonia to form monochloramines.

Concentrate handling and disposal included a ground storage tank for emergency storage during deep injection well testing and a pumping station to push the waste stream to the existing deep injection well currently located at the wastewater treatment plant. The offsite transmission mains were integral in getting brackish water to the WTP, finished water out to distribution, and concentrate water offsite to the deep injection well. These mains included over 8 miles of offsite mains including 3 miles of HDPE brackish water mains ranging from 10 inches to 20 inches in diameter; 3 miles of 12-inch HDPE concentrate main; and 2 miles of finished water transmission main to connect to the Utility's distribution system.

The projected increased brackish water salinity over time required a detailed materials selection analysis on all water-contacted equipment. The design team evaluated traditional brackish and conventional seawater materials to identify the best fit. The analysis led to the use of Duplex 2205 stainless steel for the metallic brackish water components, Super Duplex 2507 stainless steel for the interstage and concentrate components, and 316L stainless steel for permeate pipe, fittings, and instruments.



The water quantity demand steps were taken to support the capital plan for the facility to remain within the Owner's budget and projected revenue stream. Careful consideration was taken to address the increased pressure requirements for treating future higher salinity water.

Due to an aggressive schedule, the Owner selected the Construction Manager at Risk (CMAR) delivery method. The project was permitted through a preliminary design report and approved without comment from the original submission which enabled the CMAR (Garney Construction) to begin an early site work package. The 100% design plans were completed in parallel with the construction to meet the tight schedule required for having a potable supply to support regional development.

REFERENCE PROJECT NO. 2: INDIAN RIVER COUNTY DEPARTMENT OF UTILITY SERVICES SOUTH OSLO ROAD WATER TREATMENT PLANT REHABILITATION AND EXPANSION PROJECT

Vero Beach, FL

Client: Indian River County Department of Utility Services

Project Status: Ongoing

Fee Budget: $568,249

Completion Date: Estimated March 2024

Personnel on Project: Nick Black, P.E. (Project Manager and Engineer-of-Record)

Indian River County owns and operates the South Oslo Road Water Treatment Plant, an 8.57 MGD nanofiltration and brackish water blend facility that serves the southern portion of Indian River County. The facility is antiquated and in need of major rehabilitation and replacement work to restore the reliability, efficiency, and capability of the treatment plant. This project consisted of the replacement of four 1.5 MGD NF trains with new, 1.875 MGD NF trains, modifications to the feed water piping to dedicate the pump to a train, process piping replacement, chemical storage and feed system improvements, and new high service pump station to provide peak hour flow capabilities. This project also included major electrical replacement and rehabilitation work including a new power distribution panel, automatic transfer switch replacement, and conversion of existing air-actuated valves to be electrically actuated. The project will result in an increased treatment capacity of 9.

REFERENCE PROJECT NO. 3: WELLINGTON WATER TREATMENT PLANT (WTP) DEVELOPMENT AND REHABILITATION

Wellington, FL

Client: Village of Wellington

Project Status: Completed

Fee Budget: $409,830

Completion Date: 2017 (Professional Services); 2020 (Construction)

Personnel on Project: Nick Black, P.E. (Project Manager and Engineer-of-Record)

This project involves the improvements to the Village of Wellington's water treatment plant. Kimley-Horn assumed the role from another consultant to complete improvements, including adding high-service pumps; rehabilitating the old HS building; relocating or replacing existing electrical equipment; updating the plant-wide SCADA system; replacing trench piping supports; adding a membrane train; re-membrane of four existing trains; reconfiguring cleaning headers; providing new bulk and day fuel tanks; updating the sodium hypochlorite system; adding a new fluoride feed system; expanding and upgrading the control room and operator facilities; and other services as required. We provide design, permitting, bidding, and construction services for each task.

Hazen Projects

REFERENCE PROJECT NO. 4: CONSIDERATIONS AND BLENDING STRATEGIES FOR DRINKING WATER SYSTEM INTEGRATION WITH ALTERNATIVE WATER SUPPLIES (WRF 4953)

The Water Research Foundation, Denver, CO

This research focuses on the successful introduction of new drinking water supplies to maintain distribution system water quality.

Water agencies across the U.S. are considering the augmentation of existing water supplies with alternative water supplies, oftentimes requiring advanced treatment, such as for potable reuse, desalination of seawater and brackish water, and impaired groundwater. Successful implementation of these alternative water supply projects depends on the ability to demonstrate that these waters are equivalent to existing drinking water supplies concerning water quality (e.g., salinity, organic matter, nutrients, macroconstituents, pathogens) and that they do not present an additional risk to public health.



Synthesis of previously conducted research and utility experiences helps focus in on the variables most likely to impact integration of water supplies and the available distribution system water quality management strategies to leverage.

Client: Water Research Foundation (Participating Utilities: Los Angeles Department of Water and Power, Golden State Water Company, Orange County Water District, Loudoun Water, Water Replenishment District, West Basin Municipal Water District, Municipal Water District of Orange County, Pasadena Water and Power, City of Santa Monica, South Coast Water District, Suburban Water Systems, **Tampa Bay Water**, East Bay Municipal Water District, and Aurora Water.)

Project Status: Ongoing

Budget: $4,643,521 ($425,000 Hazen fee)

Completion Date: Estimated October 2023

Personnel on Project: Paul Biscardi, Ph.D., P.E. (Project Engineer)

This research project involves the identification of methods (startup strategies, blending targets) to mitigate the potential issues (corrosion, biological growth, nitrification, premise plumbing pathogens, aesthetics) that may be associated with integrating new supplies, particularly those that have undergone advanced treatment, into existing drinking water systems.

The team is preparing a literature review and research plan, conducting loop testing of pipes extracted from a distribution system impacted by tuberculation, evaluating corrosion and biofilms of premise plumbing materials containing copper and lead, and benchmarking microbiological water quality before and after introducing advanced treated water. The outcome will be the provision of guidance materials for utilities considering the integration of alternative water supplies into their system. Guidance will include the development of site-specific preferred blend ratios and post-treatment for existing and new systems depending on distribution system conditions and individual source water qualities.



REFERENCE PROJECT NO. 5: WATER TREATMENT PLANT WATER QUALITY IMPROVEMENTS

Sarasota, FL

Client: City of Sarasota

Project Status: Ongoing

Budget: Current on-going projects - $1 million in engineering fee

Completion Date: Phase 2A – 10/2023 (design), Fall/2025 (construction); Phase 2B – 06/2023 (bench pilot)

Personnel on Project: Drew Coleman, P.E. (Project Manager); Paul Biscardi, Ph.D., P.E. (Project Engineer/Process and Pilot Systems); Stephanie Ishii, Ph.D, P.E., ENV SP (Project Engineer/Water Blending/Cost Benefit Analysis)

Hazen is supporting the City's source water management, treatment, and blending approach for drinking water supply. The City's brackish water treatment plant has a capacity of 12 MGD finished water from two sources. Brackish groundwater from the "Downtown" wellfield is treated using reverse osmosis (RO). The "Verna" wellfield has high sulfide, sulfate, hardness, and moderate TDS, and is treated with cation exchange. Hazen was contracted with the City to evaluate the Verna water supply and implement treatment system improvements to increase production, improve the combined finished water quality, provide a non-corrosive drinking water. This project involves multiple phases, including evaluation of treatment technologies, bench and pilot testing, and detailed design, bidding, and construction services.





Phase 1 of the project reviewed potential alternative treatment technologies and identified treatment configurations for the Verna supply, and potential modifications to the disinfection and corrosion control approach for blended product water. Hazen developed a database driven tool for storing historical water quality across the Verna wells (39) and developing future projected water quality ranges (based on historical trends). An Excel based tool analyzed combined WTP water quality based on anticipated blending of treated water quality from the Verna supply and the Downtown supply.

Phase 2 includes the design and construction of new filters, degasifiers, and corrosion control chemical storage and feed system. The project includes re-location of the odor control system, new degasifiers, yard piping, electrical, and I&C modifications. The project includes structural rehabilitation of the existing Operations Building and architectural improvements.

Phase 3 includes pilot testing of a nanofiltration membrane system on un-aerated Verna water supply to evaluate the potential water quality improvements of nanofiltration upstream of degasification. The results will inform and guide a larger scale pilot test to gather design and operational data for follow up projects.

SECTION 3

CONSULTANT TEAM'S HYDROGEOLOGIC EXPERIENCE



IWWT28010.2023

SECTION 3: CONSULTANT TEAM'S HYDROGEOLOGIC EXPERIENCE

1. Resumes of Key Personnel

Mark McNeal, P.G.

Concrete Management – Compatibility with Existing ASR System, DIW Siting, and FDEP UIC Permitting

Mr. McNeal has 38 years of experience in hydrogeologic investigations in Florida, including project management of ASR, deep well injection, reuse, and water supply projects; design and permitting, well construction inspection; data analysis; geophysical logging and interpretation; aquifer pumping test design and analysis; system startup; well rehabilitation activities, mechanical integrity testing, and operational cycle testing. He is well known with FDEP and EPA Region IV for unique approaches and strategies in UIC permitting. He is also well known to the PRMRWSA having worked on their ASR systems, DIW feasibility, and Alternative Water Supply planning for over 25 years. *His institutional knowledge dating back to the original ASR system will be invaluable in assuring that the proposed water supply and concentrate management wells will not negatively impact the Authority's existing ASR wellfields.* ROLE: Confirmation that the proposed production, injection, and monitoring wells do not interfere with existing ASR system

Representative Injection Well Projects

FGUA Lehigh Acres, Lee County, **FL** – Provided permitting oversight and MIT services at the FGUA Lehigh Acres Class I municipal and Class I Industrial injection wells. The Class I injection wells utilize the highly transmissive "boulder zone" of the Lower Floridan aquifer. He provided similar services for FGUA's Del Prado WWTP and Golden Gate WWTP in Southwest Florida.

City of Palm Bay, Brevard County, **FL** – Provided permitting, rehabilitation, re-rating, and MIT services at the City's Troutman and SRWTP injection wells. The Class I injection wells utilize the highly transmissive "boulder zone" of the Lower Floridan aquifer.

West Villages Improvement District, Sarasota County, **FL** – Mr. McNeal worked closely with Kimley-Horn in the optimization of the new water production and concentrate disposal wells and well field for North Ports new RO SWWTP (Formerly (WVID). was involved with all aspects of a deep injection well installation for both RO concentrate and for the surplus reject water for the companion new advanced wastewater treatment plant, also designed by Kimley-Horn. A major concern in the design of the RO facility was the projected long-term degradation of water quality due to increasing TDS.

City of St. Petersburg, Injection Well Program, **St. Petersburg, FL** – Mr. McNeal has been actively and continuously involved with the City of St. Petersburg's injection well program since 1985. Mr. McNeal has assisted with all aspects of the City's injection well program and was a key participant in assisting the City with permitting its injection well system when Class I injection well re-permitting was challenged by upward migration in Florida. He attended several meetings and workshops with the USEPA representing the City. He recently oversaw the permitting, design, and construction of four additional Class I injection wells at two WRFs and is assisting with construction of one additional DIW at the NEWRF.

ASRUS, LLC



Education
- B.S., Geological Engineering, Brigham Young University, 1984

Professional Registrations
- Professional Geologist: Florida (#1231)

Years with ASRus
- 16 years
- Location: Tampa, FL

Previous Related Experience
- CH2M Hill, 21 years Tampa, FL

Pete Larkin, P.G.

Concrete Management, Lead Concentrate Disposal Hydrogeologist

Pete is a Vice President at ASRus, LLC. with 21 years' experience in permitting, design, construction, and testing of Upper Floridan aquifer (UFA) and Lower Floridan aquifer (LFA) wells. He has served as Project Manager and Hydrogeologist of Record on many projects involving Class I municipal and industrial injection wells, aquifer recharge, and ASR, throughout the SWFWMD.

Representative Injection Well Projects

City of St. Petersburg, Injection Wells and ASR, **St. Petersburg, FL** – Pete has managed the City's deep injection well and ASR program since joining CH2M in 1999. Now at ASRus, he currently serves as the Project Manager for the City's injection well expansion project that includes permitting, design, and construction of four Class I Injection wells for surplus reclaimed water disposal. Currently he manages a variety of UIC projects for the city, including well rehabilitations, permitting, annual reports, and mechanical integrity testing (MIT).

Manatee County UIC Program, Manatee County, **FL** – Project Manager and lead hydrogeologist for the County's injection-well projects including MITs, well rehabilitations, and permitting of a Class I municipal well and design and permitting of a Class V AR well while at CH2M. Now with ASRus, he continues as Senior Hydrogeologist, overseeing the Class V AR well construction permitted to recharge up to 15 MGD of reuse water in the Avon Park high-permeability zone of the UFA. He is also the Lead Hydrogeologist for the construction of an LFA Class V municipal injection well and an LFA Class I industrial municipal/RO concentrate disposal well, drilled to 3,500 feet, recently constructed at the County's North Regional WRF. He is currently managing the construction of the deep injection well at Piney Point.

City of Tampa, ASR and TAP Programs, **Tampa, FL** – Mr. Larkin I has participated in the City's ASR program since 1999. He continues to provide technical and regulatory support for this ASR system. He is managing permitting of three Class I deep injection wells at Tampa's water treatment facility.

Peace River Manasota Regional Water Supply Authority – Pete has been actively involved with the Peace River ASR System since 2003 while at CH2M and now with ASRus. Since 2009 he has been Project Manager for the hydrogeologic services contract providing regulatory support to the Authority's ASR program. He was also Project Manager and Lead Senior Hydrogeologist on a Class V Exploratory Well project to a depth of 3,500 feet to evaluate the potential for RO concentrate disposal for a future brackish water treatment facility.

City of Bradenton ASR, **Bradenton, FL** – Senior Hydrogeologist for expanding Bradenton's ASR program by three additional ASR wells providing 6 MGD of added storage. Responsible for permit applications, technical specifications, and construction oversight. Preparing a feasibility Study for an AR to the UFA allowing city to eliminate surplus reclaimed discharge to the Manatee River.



Education

- BA, Natural Science, University of South Florida, 1994

Professional Registrations

- Professional Geologist: Florida (#2793)
  South Carolina (#2723)

Total Years' Experience

- 23 years

Years with ASRus

- 8 years
- Location: Tampa, FL

Contact Information

- plarkin@asrus.net
- Cell: 813-382-8516



JOSEPH D. HABER, P.G.

SWFWMD Water Use Permitting

OVERVIEW

Joseph (Joe) Haber has over 23 years of practical experience in Florida and is experienced in well and wellfield design, including complex brackish groundwater environments, water quality analysis, brackish wellfield management, aquifer performance testing, and geophysical logging. Office Location: Tampa, FL

TECHNICAL EXPERTISE

- Hydrogeology and hydrology
- Geochemistry
- GIS
- Water Use and Consumptive Use Permitting
- Groundwater Flow Modeling
- Wellfield Design and Production Management
- Underground Injection Control
- Aquifer and Well Testing
- Well Contractor Oversight
- Water Quality Network Design

EDUCATION

- M.S. in Hydrogeology, University of South Florida, Tampa, FL (2005)
- B.S. in Environmental Science and Policy, University of South Florida, Tampa, FL (2000)

REGISTRATIONS & LICENSES

- Professional Geologist in Florida (No. 2631)

PROFESSIONAL MEMBERSHIPS

- Florida Association of Professional Geologist (FAPG)
- National Groundwater Association (NGWA)
- Geological Society of America (GSA)
- Southeastern Geological Society (SEGS)

WORK HISTORY

- RESPEC (2021–Present)
- Progressive Water Resources (2008–2021)
- Cardno Entrix (2006–2008)
- Southwest Florida Water Management District (2000–2006)

PROJECT EXPERIENCE

Peace River/Manasota Regional Water Supply Authority (PRMRWSA), Brackish Wellfield Water Use Permitting, Florida. Joe was the regulatory and technical lead during the modification of the Authority's WUP to add a 9.0-MGD brackish wellfield to its supply sources. His modeling analyses confirmed the County's actions, resulting in a considerable reduction in currently authorized impacts and a substantial recovery of UFA potentiometric surface levels within the MIA of the Southern Water Use Caution Area (SWUCA).

PRMRWSA, Peace River Facility 50-Year Water Use Permit Renewal and Modification, Florida. Joe provided technical assistance and WUP application development support to successfully modify and renew the Authority's WUP for an unprecedented permit duration of 50 years. The permit application resulted in one of the largest authorized withdrawals and longest permit durations ever issued in the state of Florida.

PRMRWSA, Water Supply Feasibility Study, Florida. During work on the Peace River Water Supply Feasibility Study, Joe created a comprehensive assessment of hydrogeologic data and more; upon Joe's analysis it was decided that development of integrated and regionally connected surface and groundwater facilities has significant potential to provide sustainable and reliable supplies for the four-County region.

City of Punta Gorda Brackish Groundwater Feasibility Study, Charlotte County, Florida. Joe performed a comprehensive assessment of hydrogeologic data and literature for both the Intermediate Aquifer System (IAS) and Floridan Aquifer System (FAS); GIS spatial analysis of water production, water quality, water level, and aquifer confinement characteristics; the potential for saline water intrusion; and identification of related wellfield management considerations.

City of Punta Gorda Brackish Wellfield Production Well No. 4 Testing and Evaluation, Florida. As Principal Hydrogeologist and Project Manager, Joe assisted the City in testing and evaluating this well, which had exhibited a steady increase in TDS since wellfield startup. RESPEC provided a range of hydrogeologic services and recommended backplugging the well to decrease overall TDS concentration while minimizing impact on the well's productivity.

RESPEC

DAVID J. BROWN, P.G.

Lead Production Well Hydrogeologist



David Brown has a broad professional background in geology, groundwater hydrology, and permitting. Office Location: Sarasota, FL

TECHNICAL EXPERTISE

- Water Resource Development
- Water Quality
- Permitting
- Facilitating Agricultural Resource Management Systems
- Total Maximum Daily Loads
- Expert Witness Testimony
- Alternative Water Supply Development
- Photogrammetric Techniques
- Irrigation Efficiency

EDUCATION

- B.S. in Geology, University of Florida, Gainesville, FL (1983)
- Graduate Level Stratigraphic Analysis, University of Florida, Gainesville, FL (1983)
- Groundwater & Aquifer Analysis, University of Florida, Gainesville, FL (1989)
- Graduate Level Engineering & Groundwater Hydrology, University of Central Florida, Orlando, FL (1992)

REGISTRATIONS & LICENSES

- Professional Geologist in Florida (No. 566)

WORK HISTORY

- RESPEC (2021–Present)
- Progressive Water Resources (2007–2021)
- Integrated Water Solutions (2006–2007)
- Southwest Florida Water Management District (SWFMD) (1997–2006)

RELEVANT PROJECTS

Managing Principal for Modification of the Peace River Manasota Regional Water Supply Authority Water Use Permit to add an additional Alternative Water Supply source to the permit specifically for brackish groundwater for the purpose of increasing the regional system reliability and sustainability.

TECHNICAL EXPERIENCE

Water Resource Development. David has managed the installation and performance testing of municipal drinking water, irrigation, and remedial recovery well systems, including statistical analysis of well yield, water quality, and efficiency. He has designed and developed alternative water supply and recovery sources to offset and augment existing supplies. As a senior water use permit evaluator, David played a critical role in the overview and assessment of Hydrobiological Monitoring Plans for several large public water supply projects.

Water Quality. David has co-authored and provided technical expertise for the Shell Creek and Prairie Creek Watersheds Management Plan to provide reasonable assurance for TMDLs. Florida Department of Environmental Protection (FDEP) considers this effort a template for TMDL reasonable assurance plans throughout the state. He also created the SWFWMD's Irrigation Well Back-Plugging Program to remediate poor water quality wells in the Southern Water Use Caution Area (SWUCA).

Permitting. Throughout David's professional career, he has been involved in permit submittal and review of water resource projects. He has successfully submitted and received County, FDEP, and SWFWMD permits for industrial, agricultural, public supply, and recreational/aesthetic projects.

Total Maximum Daily Loads. While with the SWFWMD, David developed a management plan to provide reasonable assurance documentation to address TMDLs in two Class I watersheds that supply drinking water to the City of Punta Gorda. Included in this effort was the organization of a diverse group of stakeholders, and he also developed and helped fund the two primary management actions to address TMDLs, the FARMS, and Irrigation Well Back-Plugging Programs.

2. Project Examples

ASRus Project Examples

REFERENCE PROJECT NO. 1: MANATEE COUNTY DEEP INJECTION WELL EXPANSION

Manatee County, FL

Client: Manatee County, FL

Project Status: Ongoing

Budget: $27,830 (MIT Support); $36,220 (Operational Permitting)

Completion Date: September 30, 2023

Key Personnel on Project: Mark B. McNeal, P.G. (Principal-in-Charge); Pete Larkin, P.G. (Project Manager and Technical Lead)

Relevant Services to RFP:
- UIC Permitting
- Design
- Specifications and Bidding
- Well Construction Oversight

ASRus, LLC provided hydrogeologic services to increase the reuse disposal capacity at the North Regional Water Reclamation Facility (NRWRF). ASRus provided design, permitting, construction, and start-up services for two deep injection wells at this facility. Injection well IW-1 is a Class V injection well into the Lower Floridan aquifer (LFA) to dispose of surplus and off spec reclaimed water (treated effluent) that has undergone High Level Disinfection. IW-1 has a capacity of 3 MGD. Injection Well IW-2 is a deeper Class I Industrial Injection Well completed into the LFA with a capacity of 1 MGD that is designed to dispose of treated effluent and a future waste concentrate from a proposed Reverse Osmosis (RO) brackish water treatment facility.

ASRus, LLC continues to serve as the County's primary UIC hydrogeologic consultant for deep injection well system including permitting, Mechanical Integrity Testing (MIT), well rehabilitation, annual reports, and assistance with the County's Reclaimed ASR program. The County has a Class I Municipal Injection Well at Cortez Road, A Class V recharge well that can dispose of up to 18 MGD of treated effluent at its Southwest Water Reclamation Facility (SWWRF), and a reclaimed water ASR well that is undergoing cycle testing at this time.

Most projects under the County's UIC program are managed by Pete Larkin, P.G., with Mark McNeal, P.G. providing oversight of the projects and serving as Principal-in-Charge. Because of the high quality of service consistently provided by ASRus to the County, ASRus was also awarded a prime contract to provide Class I industrial injection well services to the County for the design, permitting, construction, and start-up of the County's highly publicized Piney Point injection well system in Northeast Manatee County.



REFERENCE PROJECT NO. 2: PINEY POINT INJECTION WELL SYSTEM

Manatee County, FL

Client: Manatee County

Project Status: Ongoing

Budget: $800,000

Completion Date: April 1, 2023

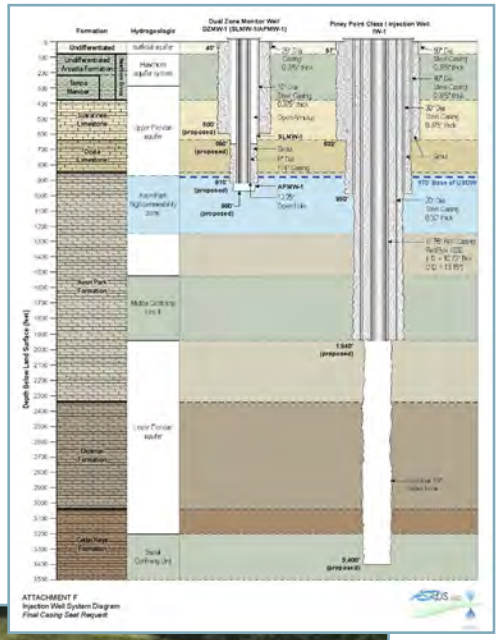
Key Personnel on Project: Pete Larkin, P.G. (Project Manager and Technical Lead); Mark McNeal, P.G. (Contract Manager and QA/QC)

Relevant Services to RFP:

- UIC Permitting
- DIW Design
- DIW Specifications and Bidding
- DIW Well Construction Oversight

ASRus, LLC was contacted by Manatee County in April 2021 following a breach in the Mosaic Piney Point Gypstack (liquid waste byproducts of phosphate fertilizer manufacturing). The breach resulted in an evacuation of at-risk neighborhoods and a state of emergency. Due to a leak threatening a catastrophic breach, 215 million gallons were discharged into Tampa Bay. Manatee County took the lead in addressing this emergency and contracted ASRus, LLC and the firm was under contract within one week for design, permit, construction oversight, start-up, and operational testing for a Class I Industrial Injection Well to lower the wastewater levels in the onsite ponds to a safe level. The injection zone extends to the Lower Floridan Aquifer (LFA) system to a depth of 3,400 feet below land surface.

ASRus began work immediately and received a FDEP permit to construct the well much faster than most injection system permits that have been issued recently by FDEP. Three bids were received from drilling contractors and Youngquist Brothers was selected to perform the work. Youngquist provided the shortest schedule and lowest cost to complete the well.



ASRus provided oversight services and prepared the well completion report obtaining operational testing approval in record time. injecting into the injection well system. The approval process has a commitment by all parties to have the DIW disposing of Piney Point pond water by April 1, 2023. ASRus will be assisting with operational testing, including permitting, until the system is ready for the County to take control of the injection well operations on a full-time basis. **Project managed by Pete Larkin, P.G., with Mark McNeal, P.G. serving as Principal-in-Charge.**



RESPEC Project Examples

REFERENCE PROJECT NO. 3: BRACKISH WELLFIELD PRODUCTION WELL NO. 4 TESTING AND EVALUATION

Punta Gorda, FL

The City of Punta Gorda (City) currently operates and maintains a brackish water wellfield at the City's Shell Creek Reverse Osmosis Water Treatment Plant (ROWTP) located in Punta Gorda, Florida. The City is currently authorized to withdraw brackish groundwater via Southwest Florida Water Management District (SWFWMD) Water Use Permit (WUP) No. 20000871.013 and has been withdrawing brackish groundwater from its six (6) active brackish groundwater production wells (District ID Nos. 5, 6, 12, 14, 63 and 64) since July of 2020. The brackish groundwater is treated through the Reverse Osmosis (RO) system and is then transported through the City's water distribution system.

Since wellfield startup, brackish Production Well No. 4 was exhibiting a steady increase in Total Dissolved Solids (TDS) concentrations, most recently, more than 3,500 mg/L. RESPEC was contracted through Carollo Engineers (Carollo) to test and evaluate the status of Well No. 4 to evaluate whether back-plugging of the well had the potential to improve water quality and sustain the production of lower TDS brackish water.

Client: Carollo Engineers

Project Status: Completed

Budget: $27,300

Completion Date: January 31, 2023

Key Personnel on Project:

N/A

Relevant Services to RFP:

- Preparation of Technical Specifications and Well Contractor Bid Package
- Well Contractor Selection Assistance
- Oversight of Testing and Geophysical Logging Activities
- Evaluation of Test Data
- Development of Technical Memorandum

The City retained Layne, A Granite Company (Layne) to provide well contractor services and RESPEC provided hydrogeologic services including:

- Preparation of Technical Specifications and Well Contractor Bid Package
- Well Contractor Selection Assistance
- Oversight of Testing and Geophysical Logging Activities
- Evaluation of Test Data and Development of Technical Memorandum

RESPEC identified three flow zones (Upper, Middle, and Lower) in Well No. 4. TDS and Conductivity spikes in the middle and lower flow zones were observed as well as evidence of secondary porosity (fractures) at the base of the well. RESPEC recommended back-plugging the well from the total depth up to approximately 835 feet below land surface to decrease overall TDS concentration while minimizing the impact on the well's productivity.

REFERENCE PROJECT NO. 4: EASTERN AND INTRACOASTAL WELLFIELD HYDROGEOLOGIC EVALUATION REPORT

Venice, FL

RESPEC (formerly Progressive Water Resources, LLC) was contracted to prepare a Wellfield Evaluation Report to summarize the historical operation, rehabilitation, and maintenance of the City production wells and to evaluate the wellfield in terms of production, water quality, and operation and develop recommendations for potential operation and maintenance programs.

Client: City of Venice

Project Status: Completed

Budget: $17,855

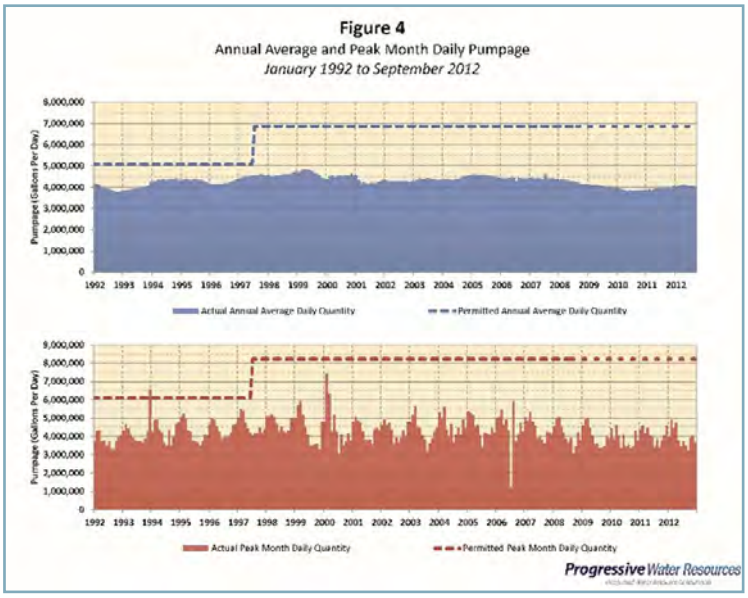
Completion Date: 2023

Key Personnel on Project:

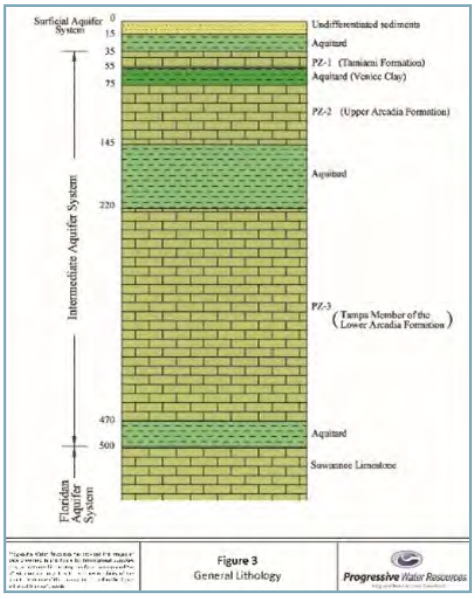
N/A

Relevant Services to RFP:

- Groundwater Quality and Quantity Evaluation
- Short-Term and Long-Term Monitoring Trend Analysis
- Local/Regional Hydrogeologic Data Assessment
- Technical Report



RESPEC performed an exhaustive compilation of the City's production well information including construction, geology, and hydrogeology of each production and monitor well, summarization of the historical rehabilitation and maintenance activities for each production and monitor well, summarizing the historical water quality data, pumpage, and assessing the regulatory compliance of each production well. After a comprehensive analysis and evaluation of the available data, RESPEC proposed operational strategies, capital improvements, and maintenance and rehabilitation activities for each of the City's fourteen (14) production well. Since the publication of this document, RESPEC has assisted City to implement the recommended production well maintenance and rehabilitation program that includes the testing and evaluation of each of the City's production wells (i.e., specific capacity testing, geophysical logging) and the rehabilitation (i.e., mechanical scrubbing, jet development, acidization, and disinfection) of several of the City's production wells.



REFERENCE PROJECT NO. 5: REGIONAL WATER SUPPLY AUTHORITY BRACKISH WELLFIELD WATER USE PERMITTING

Sarasota, Charlotte, Manatee, and DeSoto Counties

Client: Peace River Manasota Regional Water Supply Authority (PRMRWSA)

Project Status: Completed

Budget: $60,350

Completion Date: October 2022

Key Personnel on Project:

N/A

Relevant Services to RFP:

- Wellfield and Production Well Design
- Development of the WUP application and Supporting Information Narrative
- Groundwater Flow Modeling
- Impact Analysis
- Wellfield Management Plan development and SWFWMD negotiations and coordination

The Peace River Manasota Regional Water Supply Authority (PRMRWSA or Authority) is a regional water supplier in Southwest Florida that provides wholesale drinking water supporting the region's economic growth and quality of life. The Authority provides the platform for its four member counties to collaboratively plan the region's water supply benefitting from an economy of scale, shared expertise, and environmental stewardship. Since 1991, the Authority has provided drinking water to more than 900,000 people across Charlotte, DeSoto, Manatee, and Sarasota counties. Every day, the Authority supplies an average of 29 million gallons of water per day (MGD) to its members. The Authority's facilities include two off-stream reservoirs with a total combined capacity of 6.5 billion gallons; two Aquifer Storage and Recovery wellfields with a total combined 6.4 billion gallons in capacity and a potable water treatment plant.



In 2022, Sarasota County proposed a modification of its Consolidated Water Use Permit (WUP) to self-relocate 2.0 million gallons per day (MGD) of existing Upper Floridan Aquifer (UFA) groundwater quantities located at its University Parkway wellfield to its T. Mabry Carlton Reserve wellfield. The County's University Parkway wellfield is located within the Southwest Florida Water Management District's (SWFWMD's) Most Impacted Area (MIA) which is associated with the Salt-Water Intrusion Minimum Aquifer Level (SWIMAL). In contrast, the Carlton Reserve Wellfield is located 12 miles to the southwest of the MIA. RESPEC (formerly Progressive Water Resources) performed a series of groundwater flow modeling analyses that confirmed that the County's actions would not only not cause "new impacts" to the SWIMAL but result in a considerable reduction in currently authorized impacts and a substantial recovery of potentiometric surface levels within the MIA of the Southern Water Use Caution Area (SWUCA). This created a unique and time-limited opportunity for the PRMRWSA to apply for a modification to the PRF WUP to add a long-planned-for brackish groundwater wellfield. The PRMRWSA discussed this opportunity with the County, and both agreed that the County's proposal and the PRMRWSA's opportunity would be advantageous for the region.

With RESPEC's assistance, the Authority submitted a modification of WUP 20010420.011 to the District, that included a request for authorization to add a brackish water wellfield consisting of ten (10) proposed production wells to the Authority's permit.

RESPEC provided the following services for this successful project: 1) Wellfield and Production Well Design, 2) Development of the WUP application and Supporting Information Narrative, 3) Groundwater Flow Modeling, 4) Impact Analysis to determine potential impacts on environmental features, legal existing users and Minimum Flows and Levels, 5) development of a proposed Wellfield Management Plan and 6) SWFWMD negotiations and coordination.

3. Organizational Chart

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

PROJECT MANAGER/DIRECTOR
Douglas Eckmann, P.E., BCEE, D.WRE

DEPUTY PROJECT MANAGER WATER INFRASTRUCTURE
Ashley Miele, P.E.

BRACKISH SUPPLY

David Brown, P.G.[5]
Lead Production Well Hydrogeologist

Joseph Haber, P.G.[5]
SWFWMD Water Use Permitting

WATER INFRASTRUCTURE

Ashley Miele, P.E.
Lead Civil Engineer

Ty Gremaux, P.E.
Lead Site and Roadway Design

Heather Ripley, P.E.
Hydraulic Modeling

Deirdre Lynch, P.E.
Lead Water Supply and Concentrate Pipeline Design

Alan Garri, P.E.
Lead Pumping Systems and Surge Control

Russell Hyatt, PSM[2]
Lead Surveyor

CONCENTRATE MANAGEMENT

Pete Larkin, P.G.[4]
Lead Concentrate Disposal Hydrogeologist

Mark McNeal, P.G.[4]
Compatibility with Existing ASR System, DIW Siting, and FDEP UIC Permitting

SYSTEM RELIABILITY/ COST MODEL
Douglas Eckmann, P.E., BCEE, D.WRE
Lead Consultant – Brackish Water Supply System Integration

Stephanie Ishii, Ph.D., P.E.[3]
OASIS Reliability Model

Josh Weiss, Ph.D., P.E., D.WRE[3]
OASIS Capital Cost Model

Alan Maio
Regional Integration

Jeff Goodwin
Regional Integration

DEPUTY PROJECT MANAGER WATER TREATMENT
Nick Black, P.E.

WATER TREATMENT

Nick Black, P.E.
Lead Treatment Engineer

Lance Littrell, P.E.
Brackish Treatment Alternatives Evaluation

Bert King, E.I.
Design Manager/BIM

Alex Garlaschi, P.E.
Pre-Treatment

Jason Lee, P.E.
Pumping and Hydraulics

Raphael Knickerbocker, Ph.D., P.E.
Water Quality Specialist

Evan Ghidella, E.I.
FDEP WTP and Infrastructure Permitting

Tracy Prokopetz, P.E.[1]
Lead Electrical Engineer

Fernando Fuentes, P.E.[1]
Electrical Engineer

Seth Schmid, P.E.
Lead Structural Engineer

POST TREATMENT AND DISTRIBUTION

Stephanie Ishii, Ph.D., P.E., ENV SP[3]
Lead Water Quality Engineer

Drew Coleman, P.E.[3]
Post-Treatment

Paul Biscardi, Ph.D., P.E.[3]
Chemical Systems

Dan Schmidt, P.E.[3]
System SCADA Integration

Amal Yelkur, E.I.[3]
I&C Design

SUBCONSULTANT KEY

1 - RKS Consulting Engineers, Inc.
2 - Hyatt Survey Services, Inc.
3 - Hazen and Sawyer, P.C.
4 - ASRus, LLC
5 - RESPEC, Inc.

Bolded names are noted as Key Personnel

Key Personnel Chart

Douglas Eckmann, P.E., BCEE, D.WRE | *Project Manager/Director; System Reliability/Cost Model*
Doug has 40 years of experience in the funding, planning, permitting, design, and construction of water-related infrastructure projects for public utilities.

Ashley Miele, P.E. | *Deputy Project Manager – Water Infrastructure*
Ashley is a senior project manager with 21 years of project design, project management, and construction management experience with public water systems water distribution, pumping and storage engineering projects.

Nick Black, P.E. | *Deputy Project Manager – Water Treatment*
Nick has 12 years of experience providing water utility design in the Southeast with extensive treatment plant experience, including brackish water treatment plants and processes from lime softening, membrane treatment, ion exchange, disinfection, and ancillary components of typical water treatment plants.

Lance Littrell, P.E. | *Brackish Water Treatment Alternatives Evaluation*
Lance has 22 years of experience successfully delivering water, wastewater, and reclaimed water utility projects throughout Florida, with special expertise in membrane treatment for brackish water supplies

Pete Larkin, P.G. | *Concentrate Management Lead Concentrate Disposal Hydrogeologist*
Pete has 21 years of experience in the permitting, design, construction, and hydrogeologic testing of Upper Floridan aquifer (UFA) and Lower Floridan aquifer (LFA) wells.

Mark McNeal, P.G. | *Concentrate Management; FDEP UIC Permitting*
Mark has 38 years of experience in hydrogeologic investigations in Florida, including project management of ASR, deep well injection, reuse, and water supply projects; design and permitting, well construction inspection; data analysis; geophysical logging and interpretation; aquifer pumping test design and analysis; system startup; and well rehabilitation activities, mechanical integrity testing, and operational cycle testing.

Stephanie Ishii, Ph.D., P.E., ENV SP | *System Reliability/Cost Model; Post Treatment and Distribution*
Stephanie has 11 years of experience working extensively with utilities on projects and applied research spanning source water characterization and protection, drinking water treatment, water quality, and long-term water resource planning.

David Brown, P.G. | *Brackish Supply – Lead Production Well Hydrogeologist*
David has a broad professional background in geology, groundwater hydrology, and permitting. His background also includes groundwater modeling, stratigraphic interpretation, geophysical investigations, aquifer testing, ground, and surface water quality monitoring, and Total Maximum Daily Loads (TMDLs).

Joseph Haber, P.G. | *Brackish Supply – SWFWMD Water Use Permitting*
Joseph has over 23 years of practical experience in Florida Hydrogeology, Hydrology, Geochemistry, Underground Injection Control, complex groundwater flow modeling, and impact analysis. He has comprehensive experience in Water Use Permitting (WUP), compliance, and reporting as both a former Southwest Florida Water Management District (SWFWMD) employee and as a consultant.

SECTION 4

PRELIMINARY PROJECT UNDERSTANDING, APPROACH, AND SCHEDULE



IWWT28010.2023

SECTION 4: PRELIMINARY PROJECT UNDERSTANDING, APPROACH, AND SCHEDULE

1. Understanding and approach to planning, design, permitting, construction, and management of the Project, and associated considerations and challenges.

Parallel Path

Our approach to meeting the project schedule identified in the SOQ is a parallel management team with deputy project managers for wellfield development (outside the fence) **Ashley Miele, P.E.**, and treatment system (inside the fence) **Nick Black, P.E.** working under the direction of **Doug Eckmann, P.E., BCEE, D.WRE** as overall Project Manager. We will expedite the professional services by assigning two hydrogeological teams led by **David Brown, P.G.** for the water supply exploratory wells, 30% design of the well field, and SWFWMD permitting, and **Pete Larkin, P.G.** for FDEP permitting and 30% design of the DIW. Hazen will provide design professionals and water quality expertise supplementing Kimley-Horn's 30% design team.

Schedule Challenge

A challenge is the requirement for the 30% design and supporting information and OPCC for the Authority's April 2024 Board meeting. The *critical path* is the result of drilling two exploratory wells, one monitoring well, and quality and capacity testing (one well in the Lower Arcadia and the second well in the UFA for both Suwanee and Upper Avon Park permeable zones). However, **Joe Haber, P.G.** has proposed a one well approach, removing the intermediate Lower Arcadia and monitoring well and focusing on the more productive Suwanee and Upper Avon Park exploratory well.

This approach has a better chance to meet the schedule and would provide sufficient information for a price model and decision making.

Design Issues

The 30% design process will be initiated with a client risk review meeting and a workshop addressing typical risks associated with brackish water desalting and the proposed mitigation for review and concurrence by the Authority. Some examples are listed below:

Risk: Waste low TDS membrane flush water floats on injection zone, increasing risk of up coning
Consequence: Shut down of DIW
Mitigation: Alternative disposal of low TDS start-up waste; recycle to well supply blending tank

Risk: Inadequate or over designed pre-treatment system
Consequence: Membrane fouling or alternatively a stranded capital investment
Mitigation: Use the exploratory well to confirm the optimum level of pre-treatment

Risk: High sulfate in groundwater
Consequence: Calcium sulfate scaling
Mitigation: Test anti-scalants and determine optimum dosage

Risk: Degradation of water quality with time (increasing TDS)
Consequence: Requires higher pressure pumps and membrane replacement, more power required
Mitigation: If testing and modeling predict degraded water quality, provide space in facility for adding a second train, larger pumps, and supplemental electrical gear

Risk: Overuse better water quality wells
Consequence: Accelerates degradation of water quality, may violate WUP permit

Mitigation: Wellfield Management Plan and operator decision support tool in SCADA using conductivity and TDS data to blend wells to assure that all wells are rotated. Provide brackish water blending tank

Risk: Incompatibility of blended permeate and treated surface water and disinfection methods
Consequence: Corrosion of copper piping; inadequate disinfection residual

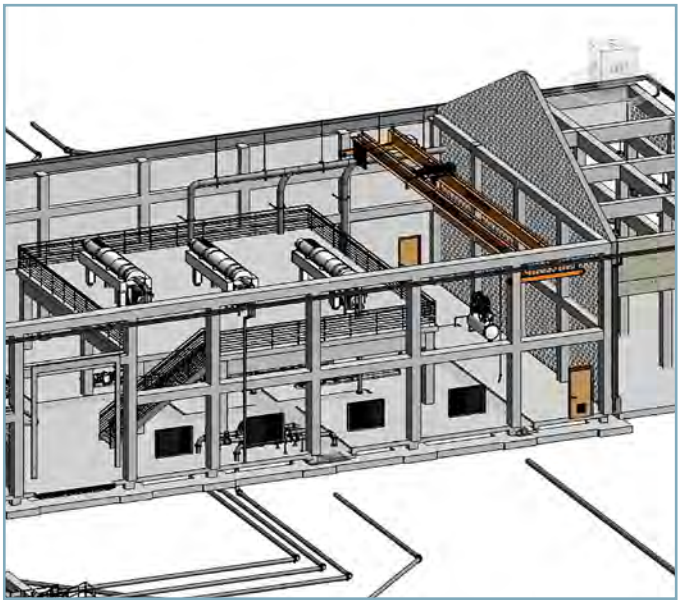
Mitigation: Water quality and blending analysis, use of chloramine for residual. Design of interface, and chemical adjustments of the brackish groundwater systems with the surface water systems included in the 30% design

Risk: Post-membrane degasifying permeate releases H2S causing odors and corrosion issues (pre-membrane for EDR)
Consequence: Excessive corrosion around Peace River Facility

Mitigation: Testing of H2S concentration in source water to establish optimum degasifier technology, biological filter technology, or NaOH scrubbers to remove H2S from the stripped air

Process Alternatives Analysis

Lance Littrell, P.E. will lead the team in evaluating brackish water desalting process alternatives. The optimum solution will be dependent on the current and projected brackish water quality but will be one of the membrane processes—either reverse osmosis, nanofiltration and, possibly, electrodialysis reversal (EDR). EDR is not as commonly used for brackish treatment as RO; however, it has the benefit of being very modular and, unlike RO membranes, the EDR units can be switched on and off without mothballing. The potential recovery is very high (greater than 85%), which maximizes the production capacity of the WUP. Because an electric current migrates the ions, the potential can be adjusted to achieve a variable product water quality for blending, and to adjust to changes in the ionic strength (salinity) of the brackish water supply. These are the reasons the EDR process was chosen for the Sarasota County T. Mabry Carlton, Jr. WTP.



Revit BIM 360 Model Centrifuge Building Lake Manatee WTP 60% design

Coordination of Design Disciplines

The design of a water treatment facility involves process-mechanical systems, power supply, instrumentation and control, structural design, architectural design, and building mechanical, electrical, and plumbing design. All these disciplines must be coordinated to avoid conflicts during construction. Kimley-Horn uses REVIT and Building Information Systems (BIM 360) to construct a cloud live model of the facility, with access granted to the design disciplines who produce their work directly in the cloud-based model where it is coordinated with the other work in progress. All designers have real-time access to the latest design model which is

live and continuously updated as the design advances. At various stages (e.g. 30% design) the dimensional construction drawings (plans, sections, and views) are plotted for checking. For client review, the model can be presented as a live 3D rendering that can be viewed from any angle, walked through, and studied for operational issues. We have found this approach is very helpful to plant operators in visualizing the workspace and suggesting refinements.

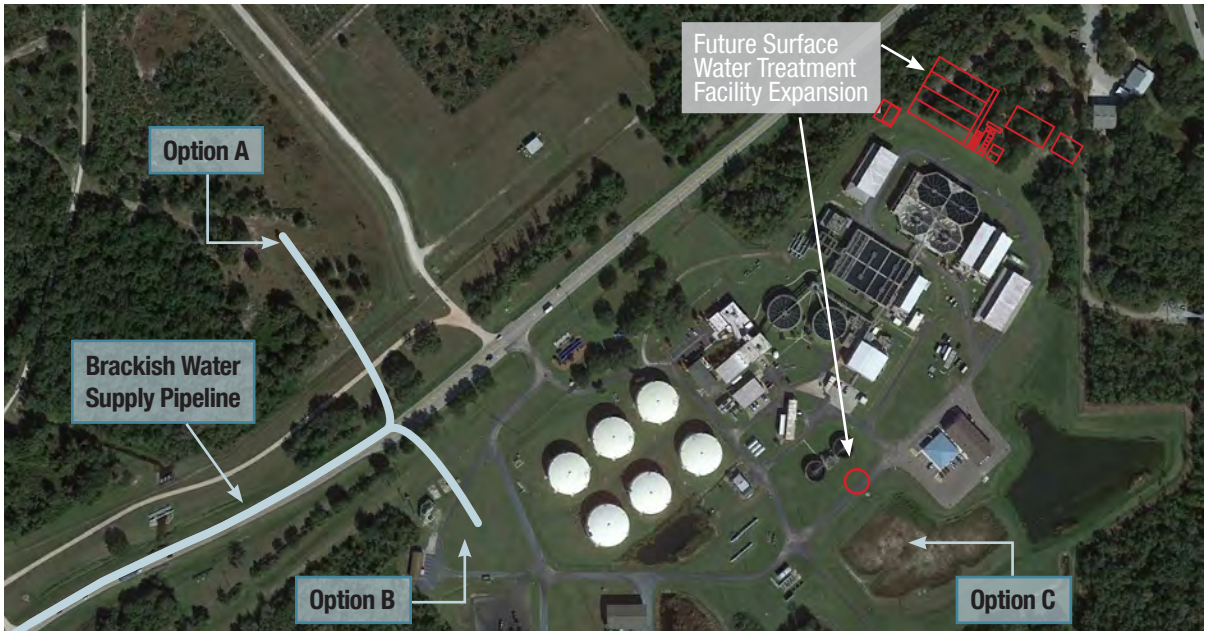
Siting of Brackish Water Facility

There is considerable flexibility in siting a brackish water facility; main issues are accessibility, minimizing brackish water and concentrate pipelines, and space for expansion. While we do not presume to have a recommendation at this point, the exhibit below illustrates some possibilities for consideration, including a location on the north side of Kings Highway.

Option A – North side of Kings HW allows access and shortens the brackish water supply main and is closer to a location for the DIW far from the existing ASR wellfields

Option B – South side of Kings HW, similar to Option A except the brackish water main needs to cross Kings HW and the concentrate main will likely need to cross Kings HW

Option C – The site identified in the 2013 Conceptual Design Report (CH2M-Hill, AECOM)



Siting of DIW

There is considerable flexibility in siting a DIW. But normally the well location needs to be identified in the DIW permit application. Because the 30% design is concurrent with the permit application process, **Mark McNeal, P.G.**, has proposed to submit the application with an **expanded area of review** so that the final location of the DIW can be determined as the 30% design is advanced. Location criteria would be no closer than ½ mile to existing ASR wells, accessibility for MIT and maintenance, and minimum length of the concentrate pipeline.

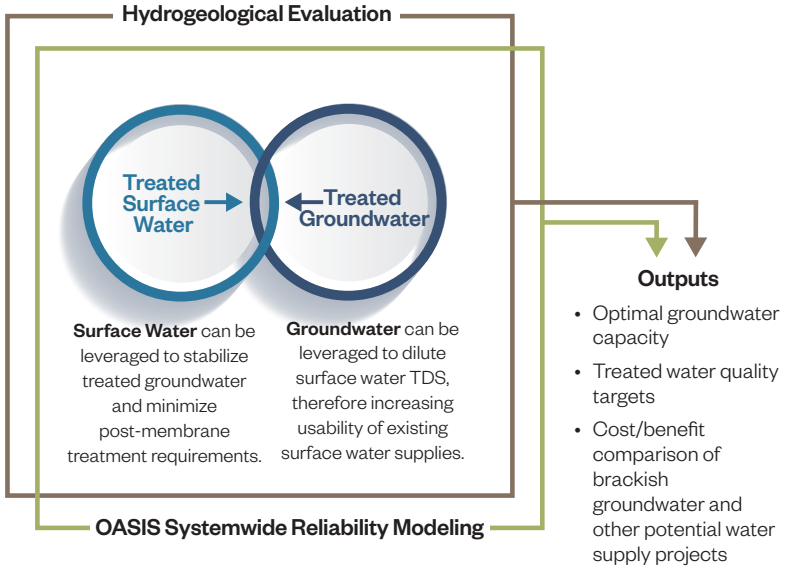
Leveraging of Water Supply with a Brackish Option

The optimal capacity for a brackish groundwater system depends on hydrogeological conditions and the extent to which varying capacities increase systemwide reliability. A new groundwater supply will benefit systemwide quantity and quality reliability by a groundwater source water independent of the extreme variability in quantity and quality of the Peace River source.

A brackish groundwater supply can leverage the surface water diverted from the Peace River. There are times when Peace River withdrawals may be permitted based on flow but are foregone due to elevated total dissolved solids (TDS) concentrations due to back flow from the estuary. The ability to blend treated surface water with a very low TDS permeate prior to distribution could increase the avaibile supply at the target TDS levels.

Blending

The introduction of alternative water sources into an existing drinking water distribution system has the potential for promoting corrosion (due to soft water) and biological re-growth (due to diminished disinfection residual). The stability of a blended surface water and groundwater source is important for distribution system management. Blending can minimize the chemical intensity of groundwater post-treatment by leveraging the constituents in treated surface water for stabilization. Blended water quality targets are a function of existing distribution system conditions, such as the Authority's customer's corrosion control protocols. **Stephanie Ishii, Ph.D., P.E., ENV SP** will lead the evaluation and design of post-treatment and blending to achieve distribution system water quality targets



Our team's understanding of the Authority's interconnected system and reliability models (SUMDAT, OASIS) allows us to evaluate the brackish supply quantity and quality reliability benefit for the Authority's members, customers, and partners.

2. Understanding of the hydrogeology and groundwater quality of southwest Florida and particularly the Authority's service area.

Production Wells

The Authority's modified Water Use Permit (WUP) authorizes brackish groundwater withdrawal of up to 9.0 million gallons per day (MGD). The hydrogeology at the Peace River Regional Water Supply Facility (PRF) and the RV Griffin Reserve is comprised of a (1) Surficial Aquifer System (SAS); (2) the Intermediate Aquifer System (IAS), also referred to as the Intermediate Confining Unit; and the (3) Floridan Aquifer System (FAS). The FAS is subdivided into the Upper Floridan Aquifer (UFA) and Lower Floridan Aquifer (LFA). The WUP authorizes 2 MGD from six IAS production wells, and 7 MGD from four UFA production wells. Both aquifers will be evaluated to confirm yield potential and evaluate mixing ratios for blended brackish water to optimize brackish water treatment. Design details for the long-term operation of the brackish water treatment system will benefit from a blended supply of consistent water quality, and an analysis of the predicted performance of the wellfield over time.

A 1998 Southwest Florida Water Management District (SWFWMD) report entitled *ROMP 9.5 Intermediate Aquifer System Phase 1 Core Drilling and Testing*, and a 2013 report prepared for the Authority entitled *Preliminary Investigation of Brackish Groundwater Development Opportunities at the Peace River Facility* provide site-specific hydrogeologic information. The 2013 report also determined that a deep injection well could be used for the disposal of the concentrate byproduct from brackish water desalting.

The IAS is a sequence of interbedded, variably consolidated sediments associated with the Arcadia Formation and is comprised of two permeable zones (PZs), referred to as the Upper Arcadia zone (PZ2) and the Lower Arcadia zone (PZ3). PZ3 is more productive, exhibits artesian flow, and has greater confinement from the overlying surficial aquifer. PZ3 has been identified at depths between 200 to 350 feet and is fresh to slightly brackish, with an average Total Dissolved Solids (TDS) concentration of approximately 550 milligrams per liter (mg/L).

Production capacity from PZ3 is variable and individual wells can produce between 0.3 to 1 MGD. Withdrawals from PZ3 are not anticipated to result in adverse impacts due to the confining characteristics of a thick sequence of carbonates and clay overlying the permeable zone; however, SWFWMD's District-Wide Regulation Model Version 4 (DWRM4) indicates that withdrawals from PZ3 may result in drawdowns in the SAS. The DWRM4 is the first SWFWMD groundwater flow model that utilizes a 3D discretization (confining units simulated as layers). Given the model's prediction of SAS drawdowns, implementation of a Brackish Water Test Plan will be used to verify the ability of the overlying sediments to impede drawdown in the SAS.

The artesian Suwannee Limestone and Avon Park Formation permeable zones occur within the UFA and are separated by a semi-confining layer represented by Ocala Limestone. The Suwannee Limestone permeable zone is currently used by the PRF for its Aquifer Storage and Recovery (ASR) system and extends from approximately 550 feet to 850 feet. The Suwannee Limestone permeable zone is more saline than the IAS with an average TDS concentration of approximately 1,000 mg/L. Under high rates of withdrawal, this zone has shown increases in salinity due to the up-coning of denser groundwater as evidenced by water quality changes at ASR Wellfield No. 2. However, the Suwannee Limestone could be considered as a possible water supply source if testing determines that withdrawals will not negatively impact the operation of ASR Wellfield No. 2. Recent testing of several Suwannee Limestone ASR wells at the PRF indicate yields between 0.7 and 1.2 MGD. It should be noted that DWRM4 also indicates a significant upward movement of groundwater from the Avon Park Formation, when Suwannee Limestone production wells are simulated. The Test Plan will verify the confining characteristics of the Ocala semi-confining unit to determine the feasibility of utilizing the Suwannee Limestone as a brackish water source.

The Avon Park Formation is currently not utilized by the PRF; however, much testing has occurred in this zone using a single ASR test well (AP-1) constructed in 1993. AP-1 has a reported open hole interval from 1,303 to 1,484 feet; and, geologic descriptions during its construction indicate that the top of the Avon Park Formation was encountered at 1,000 feet. Testing at AP-1 indicates the presence of a highly permeable zone below 1,400 feet and individual wells open to the highly fractured portions of the Avon Park Formation can yield between 3 to 5 MGD. Groundwater from the Avon Park Formation's permeable zone is highly mineralized as evidenced by a 3-day pumping test performed in 1993 where the Total Dissolved Solids (TDS) concentration increased from 1,500 mg/L to 2,800 mg/L over the test period. A longer 90-day pumping test was also conducted at AP-1 in 1994 where TDS concentrations stabilized between 3,000 and 3,400 mg/L. A more recent 8-hour pumping test was conducted in 2013 at a rate of 3 MGD and yielded a TDS value of 5,350 mg/L. The brackish water TDS in the Avon Park Formation's highly permeable zone is high TDS, not stable, and not predictable.

While AP-1's open hole interval results in production from the highly fractured zone below 1,400 feet, withdrawals from the upper Avon Park Formation, from 1,000 to 1,350 feet, appear to be a more stable brackish source. Well production is expected to be comparable to the overlying Suwannee Limestone permeable zone. Water quality testing of AP-1 indicates a steady increase in TDS since its construction in 1993. Therefore, the Test Plan will determine a sustainable yield for the upper Avon Park Formation. Results from the Test Plan may indicate that a combination of Suwannee Limestone and upper Avon Park Formation production wells can provide a stable brackish water quality. Given the difference in yield and water quality in the brackish water production wells, a Wellfield Management Plan (WMP) that employs production well rotation, variable frequency drives (VFDs), production well water quality guidance levels, and monitors well trigger levels will be prepared as a Decision Support System (DSS) for the plant operators. The DSS is intended to aid the operators in maximizing well production and performance of the brackish water treatment system.

WELL CONSTRUCTION CONTRACTOR AVAILABILITY

Our Project Manager, Doug Eckmann, P.E., BCEE, D.WRE has communicated with Carlos Fajardo, Layne Granite Regional Account Manager, and he assured Doug that they would have rigs available to perform the exploratory well construction and testing program beginning this summer.
"If we don't have a rig, we will buy one." – Carlos Fajardo

Considerations for Deep Injection Wells and Concentrate Management

The FDEP Classifies RO concentrate disposal wells as Class I Industrial Injection Wells. The recommended injection zone for a Class I Industrial Injection Well for RO concentrate is the Lower Floridan Aquifer (LFA) from approximately 2,200 feet to 3,300 feet. The Avon Park high permeability zone (APHPZ) is also present at this site; however, the base of the Underground Source of Drinking Water (USDW) occurs within the APHPZ high permeability zone at about 1,550 feet; therefore this zone cannot be permitted for Class I disposal.

The anticipated injection capacity of the recommended LFA is between 1 and 2 million MGD based on the exploratory investigation conducted in 2012. Other regional LFA injection wells have demonstrated similar permeability. At 1.25 MGD injectivity and 80% recovery, one concentrate injection well 5.0 MGD permeate in a water brackish water treatment facility. If there is only one DIW, the brackish water treatment plant will need to go offline during routine MITs (every 5 years).

Our team recommends forgoing an exploratory DIW because this was adequately performed in 2012 and would unnecessarily delay project implementation. We propose to apply directly for a Class I Industrial Injection Well Construction and Testing Permit versus a Class V Exploratory Permit. DIW permitting will take between 12 and 18 months and is a critical path activity. The DIW permitting process should be started immediately after the selection of the consulting team. **Mark McNeal, P.G.** will lead the DIW permitting effort. **Mark, as President of ASRus, has committed to initiating permitting of the DIW well at risk (without a contract) to shorten the time needed for DIW permitting.**

WELL CONSTRUCTION CONTRACTOR AVAILABILITY

It is critical to the success of the project that well construction contractors are available and there are only a few firms with the capability to drill the very deep wells needed for Class I injection. Therefore, our Project Manager Doug Eckmann, P.E. communicated directly with Bill Musselwhite, the Senior Vice President of Youngquist Brothers, Florida's premier contractor for deep well construction. Youngquist Brothers owns 11 deep well drilling rigs and is building 4 additional deep well rigs (Youngquist has more deepwell drilling rigs in Florida than the rest of the industry). Mr. Musselwhite assured Doug that they would have the capacity to drill the DIW for the Authority's brackish water project in conjunction with the timeline for the project. Assuming 12-18 months for permitting the DIW, and assuming the DIW is initiated as soon as it is permitted, they will put the Authority's project in their production schedule with a Letter of Intent. This will assure that if the Authority decided to move forward with a brackish water supply that the brackish supply system will be online by March 2028. They also have the availability to drill the 10 water supply wells if needed. In 2012, Youngquist drilled the exploratory deep injection test well through the existing ASR well AP-1 to a depth of 3,500 feet, confirming injectivity sufficient to support a 5.0-MGD brackish water treatment facility. Doug Eckmann (at the time with AECOM), Pete Larkin (at the time CH2M Hill), and Mark McNeal (ASRus) were also involved in the 2012 exploratory effort and brackish treatment feasibility study.

MULTIPLE USES FOR AN ON-SITE DIW

Because the injectate for a Class I Industrial Injection Well has no water quality requirements, it could be used for other future waste streams generated at the PRF. For example, if the Authority is to implement membrane filtration in the future, these systems require maintenance cleaning once or twice daily with acid and sodium hypochlorite and require a 10-hour chemical recovery cleaning once per month. The wastewater from these cleaning operations cannot be recycled to the reservoir system the same way that the gravity filter backwash is currently recycled. The proposed DIW should consider capacity of these future waste streams.

DIW SITING

Because the location of the DIW must be identified in the permit application, it is proposed to identify an "Expanded Area of Review" of about a one-mile radius of the PRF in the application. This will provide flexibility to the design engineers to site the well based on the considerations of minimizing the distance to the brackish water treatment system, adequate distance from the previous exploratory well, space for drilling operations, space to co-locate a dual zone monitoring well within a 150 feet radius, and space for surface facilities, surge protection, power supply, and operations accessibility.

3. *Approach to design, oversight, and completion of a brackish groundwater well construction, development, and testing program for Avon Park Formation production wells.*

   The Authority's WUP has specifically identified the Avon Park Formation as a potential supply source, however, the Suwannee Limestone should also be evaluated.

   Preliminary assessments of wells constructed at the PRF indicate that it is possible to complete testing of the three permeable zones (Lower Arcadia, Suwannee Limestone, and the Upper Avon Park Formation) using two (2) test-production wells and a single SAS monitoring well. One test-production well is proposed to be used for the Lower Arcadia zone testing (IAS) and the second is used for Suwannee Limestone and

upper Avon Park Formation (UFA). Given the variable yield characteristics of the IAS, we propose that the diameter of the Lower Arcadia test production well be 12 inches, instead of the permitted diameter of 16 inches. This will reduce costs.

Lower Arcadia Zone Test and Future Production Well

Test-production well drilling would begin at each of the two locations by setting large-diameter surface casings through the SAS. A 9 7/8-inch diameter pilot hole would be advanced through the confining sediments to the Upper Arcadia permeable zone. Lithologic samples will be collected every 5 feet and Shelby Tubes and core samples of the confining sediments above the Lower Arcadia permeable zone will be collected for laboratory permeameter testing. The pilot-hole will be advanced through the Lower Arcadia permeable zone, with lithologic samples continuing to be collected every 5 feet and terminating in the underlying confining sediments. Geophysical logging of the pilot hole will be performed. After completion of geophysical logging, a final casing depth will be determined for the Lower Arcadia test-production well and the well is reamed to its total depth. A small diameter SAS monitoring well will be installed at a depth of 25 feet, within 50 feet of the Lower Arcadia test well.

After the Lower Aquifer test well is developed, a step-drawdown and a 10-day constant rate aquifer pump test will be performed to collect specific aquifer data including transmissivity, storage, and leakance for use in an updated (site-specific) groundwater flow model. Testing is proposed to be performed when the PRF is not actively injecting or withdrawing from ASR wells. Water quality field measurements will be monitored throughout testing and before the completion of pump testing and primary and secondary drinking water samples will be collected. Water level monitoring of the Surficial Aquifer System will occur before, during, and after testing of the Lower Arcadia zone to verify the validity of the DWRM4 modeling results. Results from the testing and groundwater flow modeling simulations will be used to verify a consistent 2.0 MGD production of the IAS wells.

Suwanee/Avon Park Test/Production Well

A similar approach is proposed for the second test-production well in the UFA; however, after installation of the large diameter surface casing, a 9 7/8-inch pilot hole will continue below the Lower Arcadia until and extend approximately 25 feet into the Suwannee Limestone. Lithologic samples will be collected every 5 feet and Shelby Tubes and core samples of the confining sediments below the Lower Arcadia permeable zone will be collected and used for laboratory permeameter testing. The pilot hole will be geophysically and video logged, and a final casing depth to isolate sediments above the Suwannee Limestone will be determined. The pilot-hole will be reamed to the diameter needed for an intermediate casing, isolating the Suwannee Limestone. The intermediate casing will be pressure grouted in place. The pilot hole will be advanced through the entire thickness of the Suwannee Limestone and geophysically and video-logged. A step-drawdown and 10-day constant rate aquifer pump test at a flow rate of approximately 200 gpm. UFA testing is proposed to be performed when the PRF is not actively injecting or withdrawing from ASR wells. Water quality will be monitored, and primary and secondary drinking water samples will be collected. Suwannee Limestone parameters of transmissivity, storage, and leakance will be determined for the Suwannee Limestone and used in site-specific DWRM4 modeling to review predicted impacts to ASR Wellfield No. 2. During testing, water levels will be monitored in the Lower Arcadia permeable zone test well and ASR Wellfield No. 2 production and monitoring wells. Groundwater discharged from the Suwannee Limestone testing be sampled for arsenic based on concerns expressed by the FDEP. Test water from the Suwannee Limestone can be routed to the Authority's reservoir system for treatment at the PRF.

On completion of discrete testing of the Suwannee Limestone, the pilot hole will be advanced through the Ocala Limestone semi-confining unit and into the upper Avon Park Formation and terminate above the highly fractured zone at a depth of 1,350 feet. Lithologic samples will be collected every 5 feet and limestone core samples of the Ocala Limestone will be collected and used for laboratory permeameter testing. Geophysical and video logging will be performed, and packers will be set in the Ocala Limestone to isolate the upper Avon Park Formation from the Ocala and Suwannee Limestones. Discrete testing of the upper Avon Park Formation will use a step-drawdown and 10-day constant rate aquifer pump test at a flow rate of 1,000 gpm. During testing, water levels will be monitored in the Lower Arcadia permeable zone test well, the Suwannee Limestone above the packers, and ASR Wellfield No. 2. Water quality will be monitored with primary and secondary drinking water samples collected. Parameters of transmissivity, storage, and leakance for the upper Avon Park Formation will be determined and used in the site-specific DWRM4 model to complete an updated DWRM4 model for the PRF system. Discharged water from Avon Park will need to be routed to the Authority's reservoir system for blending and treatment due to elevated TDS concentrations.

After discrete testing is completed for the Suwannee Limestone and upper Avon Park Formation, a combination test with the Ocala Limestone packers removed will be performed to ascertain production and water quality characteristics from a well open to both the Suwannee/Ocala Limestones and the upper Avon Park Formation. Testing will include a step-drawdown and 10-day constant rate aquifer pump test; aquifer parameters previously determined will not need to be repeated. Water levels will be monitored in the Lower Arcadia permeable zone test-production well and ASR Wellfield No. 2. Water quality will be monitored with primary and secondary drinking water samples collected.

The proposed Suwannee/Avon Park Test Plan is flexible because the second test-production well could be completed as an exclusively Suwannee Limestone well via back-plugging of the deeper pilot-hole and reaming out the pilot-hole to an appropriate diameter; or as a combination Suwannee/Ocala/upper Avon Park well by reaming-out the entire pilot-hole depth; or an exclusively an upper Avon Park Formation well by the installation of a tertiary and final casing telescoped inside the intermediate casing to the top of the Suwannee Limestone and reamed to the diameter of the final casing. A final production well design will be developed that maximizes the production potential of the water supply wellfield. Depending on the final design, the Authority's WUP may require formal modification using the site-specific groundwater flow model.

4. Understanding of SWFWMD WUP rule criteria and policies and the SWFWMD's Districtwide Regulation Model (DWRM), identification of key WUP permitting challenges, and an approach for timely securing a modification of the Authority's WUP to increase groundwater withdrawal facilities and quantities.

SWFWMD Rule Criteria

The PRF is located within SWFWMD's Southern Water Use Caution Area (SWUCA). The SWUCA was designated by the SWFWMD in 1992 to address declining UFA levels due to groundwater withdrawals. The area encompasses 5,100 square miles, including all of DeSoto, Hardee, Manatee, and Sarasota counties, and parts of Charlotte, Highlands, Hillsborough, and Polk counties.

There are three main areas of concern within the SWUCA:

1. Reduced flows in the Upper Peace River
2. Reduced lake levels in the Ridge Lakes area (extends roughly 90 miles along the center of the state in Polk and Highlands counties)
3. Rate of saltwater intrusion into the UFA along the coast, especially in the Most Impacted Area (MIA), an area encompassing about 708 square miles located on the gulf coast of southern Hillsborough, Manatee, and northwestern Sarasota counties

In response to these concerns, SWFWMD adopted the SWUCA Recovery Strategy in 2006. The four principal goals of the Recovery Strategy are:

1. Achieve minimum flows in the upper Peace River
2. Achieve Minimum Lake Levels in lakes along Lake Wales Ridge
3. Achieve the saltwater intrusion Minimum Aquifer Level
4. Help ensure regional water supply needs are met

The SWFWMD implemented Minimum Flows and Levels (MFLs) are in the SWUCA. An MFL is a limit at which further withdrawals would be harmful to the water resources or ecosystem. The SWFWMD evaluates waterbodies within the SWUCA and adopts additional MFLs. The SWUCA Recovery Strategy uses the concept of "Net Benefit" to provide flexibility in situations where existing rules, coupled with water supply planning and water resource development projects, are not adequate to achieve the SWUCA Recovery Strategy objectives. The Strategy relies on cumulative impact analyses in the form of groundwater flow modeling to evaluate changes in permitted and groundwater consumption in the MIA. The Salt-Water Intrusion Minimum Aquifer Level (SWIMAL) was developed in 2002 to slow the rate of saltwater intrusion in the MIA. No impacts to the MIA is allowed.

SWFWMD District-Wide Regulation Model Version 4.0 (DWRM4)

The SWFWMD utilizes the District-Wide Regulation Model Version 4 (DWRM4) as its primary groundwater impact analysis tool. The DWRM4 will be utilized for analysis of any modification of the WUP that includes a redistribution or increase in quantities. The DWRM4 is the first fully 3D version of the DWRM (both permeable zones and confining units are simulated as active layers) whereas previous versions of the DWRM were quasi-3D (confining units were simulated using a leakance value between permeable zones). The DWRM4 also uses MODFLOW-USG whereas previous versions used MODFLOW 2000 and MODFLOW 2005. The "USG" in MODFLOW-USG stands for "Unstructured Grid" which allows MODFLOW to utilize smaller grid spacing within the "Focus Area" that targets the Applicant's groundwater withdrawals. Each Focus Area model using DWRM4 now simulates the entire model domain. The DWRM4 is discretized into 13 active layers that simulate: Surficial Aquifer System (Layer 1); Upper Arcadia Permeable Zone (Layer 3); Lower Arcadia Permeable Zone (Layer 5); Suwannee Limestone (UFA-Layer 7); Ocala Limestone (UFA-Layer 8); Avon Park Formation (FA-Layer 9; Lower Floridan Aquifer (LFA) Middle Confining Unit (MCU) (Layer 11); and the LFA below the MCU (Layer 13). Layers 2, 4, 6, 10, and 12 will simulate confining units.

Key Water Use Permitting Considerations for a Brackish Wellfield at the PRF

The PRF is 12 miles southwest of the designated Most Impacted Area (MIA) associated with the Salt-Water Intrusion Minimum Aquifer Level (SWIMAL). Per SWFWMD rules, all WUP applications must be evaluated for potential impact on the SWIMAL utilizing a cumulative impact assessment based on available information. The DWRM4 represents the "best available tool" for assessing the potential impacts of groundwater withdrawals. A proposed withdrawal that lowers the Floridan Aquifer potentiometric surface within the MIA is assumed to adversely impact the SWIMAL. If a groundwater flow simulation indicates that a withdrawal will impact the SWIMAL, the SWFWMD will only approve the WUP application if the Applicant implements a groundwater offset. This offset can be a Self-Relocation of existing permitted quantities, or a "Net Benefit" in the form of Mitigation Plus Recovery.

WUP applications are assessed on the potential to impact surface water bodies including wetlands, rivers, and streams. The SWFWMD utilizes a 365-day simulation representing average annual groundwater withdrawal (9.0 MGD in this program) to assess localized impacts on surface water. The effects on the SAS (Layer 1) of the DWRM4 are utilized to indicate surface impacts.

All WUP applications are assessed for conflict with existing, legally permitted users for adverse impacts. Legally permitted users of groundwater includes existing water use permittees and users that fall within the "General Permit by Rule" threshold under Rule 40D-2.041(3). This includes most wells less than 6 inches

in diameter. The SWFWMD uses a 90-day simulation that represents the Peak Month Daily (PMD) proposed groundwater withdrawal to assess localized impacts on existing users. An analysis would include all users within the 2-foot drawdown contours for the UAA (Layer 3), LAPZ (Layer 5), and Suwannee (Layer 7). Because the water quality in the Ocala and Avon Park aquifers (Layers 8 and 9) are brackish, the only user in these zones is the Authority.

The groundwater flow modeling results will be used to assess impacts on Minimum Flows and Levels (MFLs) including the Upper Peace, Ridge Lakes, MFL Lakes, and Guidance Lakes. Both the Upper Peace and Ridge Lakes have target aquifer levels set by the SWFWMD. A lowering of the UFA potentiometric surface that causes the long-term UFA water level to decrease below the target levels set in the SWFWMD Rule for either the Upper Peace or Ridge Lakes will not be permitted. An assessment of which lakes have adopted MFLs and Guidance Levels as well as which lakes are meeting their minimum and guidance levels is required.

5. *Understanding and approach to SCADA system design for remotely monitoring continuous flow, water levels, specific conductance, and other pertinent information.*

   The key to remote monitoring will be to select instruments that have demonstrated sustained accuracy once calibrated. Connectivity can be by fiber optics laid in the same trench as the brackish water pipeline and coordinated with the Facilities SCADA system. If the project is selected by the Authority Board for their next water supply project, the final design package could include an operator Decision Support System (DSS) for both monitoring and managing the well field. The objective of the DSS is to aid the operators in selecting combinations of wells for optimized brackish water quality based on production goals. This will also assure well rotation and minimizing over pumping.

6. *Understanding and approach to developing a reliable opinion of probable cost for design, permitting, construction, operation, and maintenance of all Project facilities.*

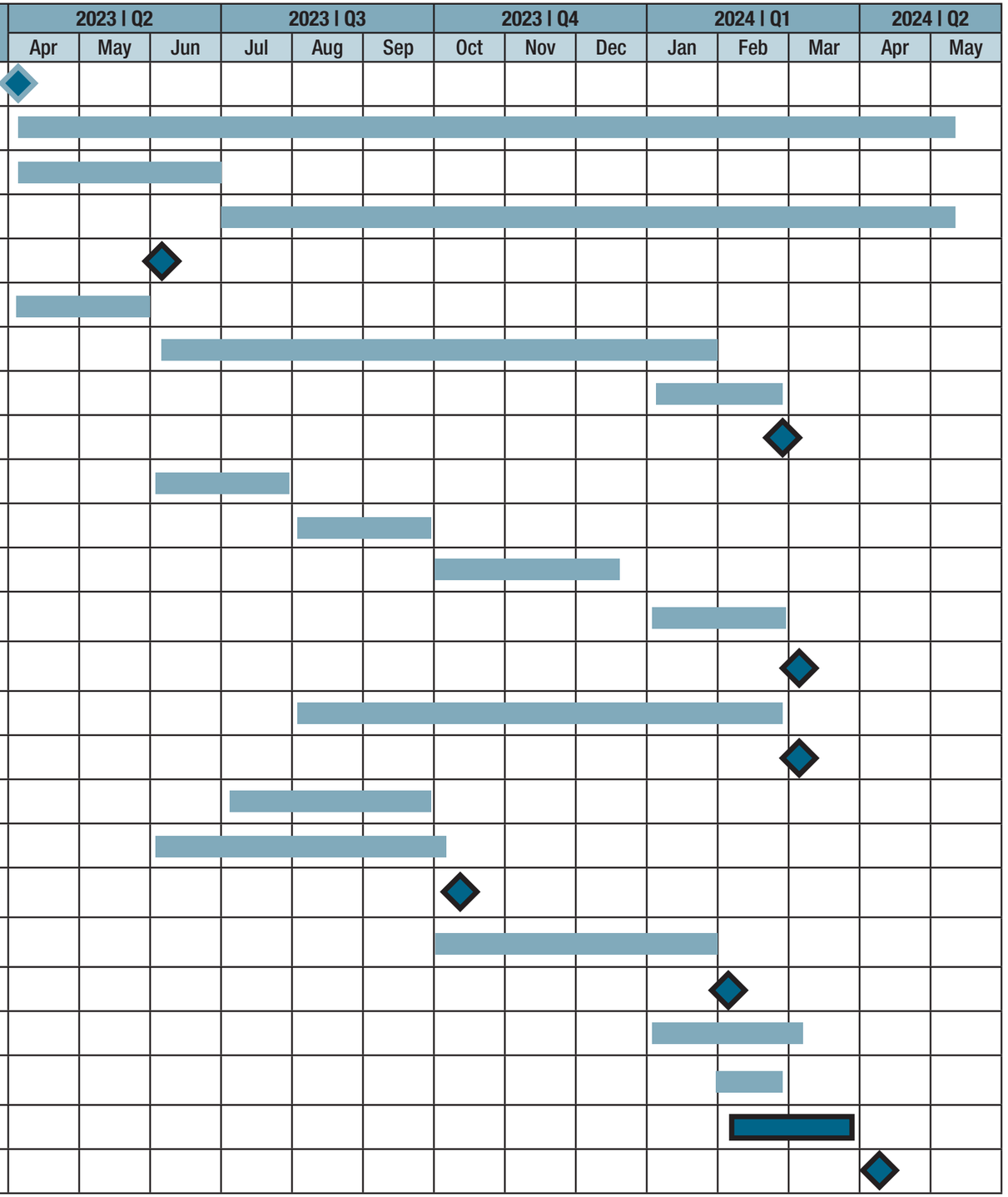
   In developing a total project cost, the largest unknown is the cost of construction. Contractors reported cost increases of 10 to 50% for water supply and treatment projects in 2021-2022. Because of this rapid increase in costs reliance on bid tables from past projects, the FDOT database is inaccurate as the information is already out of date. To address this issue, on completion of the 30% design Kimley-Horn will pay a qualified utility contractor to run the design through their estimating department doing take offs and contacting vendors of materials and equipment for up-to-date pricing. Because of on-going business relationships utility contractors are more effective at obtaining accurate quotations and estimating installed cost. Other costs such as engineering and permitting are easier to predict accurately. Maintenance and operations costs will be established by current costs for electricity and supplies and incremental fully burdened labor costs. Using this approach based on a 30% design, the total project cost estimate will meet AACE International guidelines for +/- 10% estimate.

   In addition, our team proposes a comparison of a new groundwater source versus increased surface water source in terms of system reliability and the incremental cost versus incremental reliability as a percentage of the time that the Authority is assured it will meet its water supply contracts.

7. *Schedule for Preliminary Engineering*

   Kimley-Horn's project schedule is shown on the following page.

PEACE RIVER BRACKISH GROUNDWATER FACILITY PROJECT	Start	Finish
Authority Consultant Selection	4/5/23	4/5/23
Start DIW Permitting at Risk (12 months) Critical Path (ASRus and FDEP)	4/5/23	5/10/24
UIC Permit Preparation (3 Months) (ASRus)	4/5/23	6/30/23
UIC Agency Review Critical Path (FDEP)	6/30/23	5/10/24
Authority WO 1 Approval	**6/7/23**	**6/7/23**
Development of Testing Specifications and Test Plan at Risk (2 months) (RESPEC)	4/3/23	5/31/23
Well Construction and Hydrogeological Testing (7 months) (Layne)	6/12/23	1/31/24
Evaluation of Test Data and Analysis (RESPEC)	1/8/24	2/23/24
Technical Memorandum No. 1 - Exploratory Well and Construction Program and Results	**2/23/24**	**2/23/24**
DWRM4 Modeling and Report (RESPEC)	6/5/23	7/28/23
WUP Modification Preparation (RESPEC)	8/7/23	9/29/23
WUP Agency Review (SWFWMD)	10/2/23	12/18/23
Evaluation of Compatibility of Injectate and Recommendations for Pretreatment and Antiscalant Based on Data from Previous Studies and Similar Area DIWs (ASRus)	1/8/24	2/26/24
Technical Memorandum No. 2 - Compatibility of Injectate with injection zone, mitigation of ASR interference and antiscalant pretreatment	**3/6/24**	**3/6/24**
30% Design Wellfield Surface Facilities, Pipe Network Infrastructure, and SCADA (Kimley-Horn and Hazen)	8/7/23	2/23/24
30% Wellfield Design Review Workshop (Consultant Team and Authority)	3/6/24	3/6/24
Evaluation of the Brackish Water Treatment Technology Alternatives for the Peace River Facility (Kimley-Horn)	7/10/23	9/29/23
Evaluation of Siting Alternatives for the Peace River Brackish Facility (Kimley-Horn)	8/7/23	10/6/23
Technical Memorandum No. 3 - Basis of Design and Conceptual Design of Brackish Treatment facility	**10/18/23**	**10/18/23**
30% Design of Pretreatment, Desalting System, Post Treatment, Facility, Site, Electrical, I&C and SCADA (Kimley-Horn and Hazen)	10/2/23	1/31/24
30% Facility Design Review Workshop (Consultant Team and Authority)	2/7/24	2/7/24
Develop OPCC and Cost Model for Brackish Supply and Treatment System (Kimley-Horn and Hazen)	1/8/24	3/8/24
Evaluate Incremental Capital and O&M Cost and Incremental Reliability using System Model (Hazen and Kimley-Horn)	1/29/24	2/23/24
Technical Memorandum No. 4 Evaluation of Water Supply Options and Recommended Next Steps	**2/12/24**	**3/22/24**
Authority Board Water Supply Project Selection	**4/10/24**	**4/10/24**



SECTION 5

WELL CONSTRUCTION CONTRACTOR APPROACH



IWWT28010.2023

SECTION 5: WELL CONSTRUCTION CONTRACTOR APPROACH

1. *Consultant to list the minimum qualifications that will be used to select a qualified well construction contractor capable of conducting construction and testing within a timeframe sufficient to allow for effective design of all Project facilities.*

   The Well Construction Contractor for the production well field will be required to demonstrate the following qualifications:

   1. Recent exploratory well drilling experience in Southwest Florida utilizing coring, packer testing, and geophysical logging
   2. Successful completion of not less than 10 municipal production wells 12-inch diameter or larger in the past 5 years
   3. Capable of mud-rotary, reverse air, and reverse circulation drilling techniques
   4. Experience with off-bottom and staddle packer testing
   5. Ability to conduct flow and water quality testing during drilling (after each rod)
   6. Multiple operating drilling rigs within the firm, redundancy for key equipment

   The Well Construction Contractor for the DIW will be required to demonstrate the following credentials:

   1. Successful completion of not less than 5 DIWs and dual-zone monitoring wells in the last 5 years
   2. Equipment capable of advancing a borehole to 10,000 feet
   3. In-house geophysical logging capability with a dedicated crew (no down time for logging)
   4. Satisfactory completion of DIWs with both cement and fluid-filled annuluses

2. *The Consultant's proposed approach to contracting and coordination with the well construction contractor(s) to ensure timely and effective completion of well construction and testing.*

   We understand from the SOQ documents that to expedite the program and be able to provide the information required for the Board to decide on their next water supply project at the April 2024 Board meeting, the consulting team is to have identified and engaged a qualified well construction contractor before the approval of Work No. 1 at the June 2023 Board meeting.

   As described in Section 4, our team has contacted exploratory and testing well construction contractors for the production wells to assess their availability to meet the Peace River Brackish schedule. **Layne, a wholly owned subsidiary of Granite Construction, Inc. of Fort Myers, Florida** has committed to our Project Manager the availability of drilling rigs to perform the exploratory well construction and testing program described in Section 4. Layne with the backing of their parent company Granite Construction, will have drilling rigs and dedicated crews available to complete the exploratory wells and testing program needed for the completion of Technical Memorandum No. 1 on the schedule presented in Section 4-7.

   For the DIW we intend to engage **Youngquist Brothers, Inc. of Fort Myers, Florida.** Youngquist has committed to our Project Manager that they will have deep well drill rigs available to construct the DIW if the Board decides to proceed with a brackish water supply project.

   As the prime consultant, Kimley-Horn could contract with the well contractors directly if requested by the Authority. Alternatively, if the well contractor is contracted directly to the Authority, or another party, their services will be managed, and oversite will be provided, by Kimley-Horn's consulting team of professional hydrogeologists. **Both Layne and Youngquist meet the criteria presented in Section 5-1.**

SECTION 6

REQUIRED FORMS

- Key Personnel Chart (Attachment A)
- E-Verify Affidavit and Required Evidence
- Signed Sworn Statement under Section 287.133(3)(a), Florida Statutes, on Public Entity Crimes
- Reference Forms



IWWT28010.2023

Peace River Manasota Regional Water Supply Authority Brackish Groundwater Facility Project SOQ

KEY PERSONNEL CHART

Key Personnel	"Key Staff Role on Design-Build Team"	Employer	Years of Experience	Assigned Office City/State	Engineering Experience - Reference Projects					Hydrogeologic Experience - Reference Projects				
					1	2	3	4	5	1	2	3	4	5
Douglas Eckmann, P.E., BCEE, D.WRE	Project Manager/Director; Lead Consultant - Brackish Water Supply System Integration	Kimley-Horn	40	Fort Myers, FL	X									
Ashley Miele, P.E.	Deputy Project Manager - Water Infrastructure	Kimley-Horn	21	Sarasota, FL	X									
Nick Black, P.E.	Deputy Project Manager - Water Treatment; Lead Treatment Engineer	Kimley-Horn	12	West Palm Beach, FL		X	X							
Lance Littrell, P.E.	Brackish Water Treatment Alternatives Evaluation	Kimley-Horn	22	Orlando, FL	X									
Stephanie Ishii, Ph.D, P.E., ENV SP	OASIS Reliability Model; Lead Water Quality Engineer	Hazen	11	Tampa, FL				X	X					
Mark McNeal, P.G.	Compatibility with Existing ASR System, DIW Siting, and FDEP UIC Permitting	ASRus	38	Tampa, FL	X				X	X	X			
Pete Larkin, P.G.	Lead Concentrate Disposal Hydrogeologist	ASRus	21	Tampa, FL						X	X			
David Brown, P.G.	Lead Production Well Hydrogeologist	RESPEC	40	Sarasota, FL								X	X	X
Joseph Haber, P.G.	SWFWMD Water Use Permitting	RESPEC	23	Tampa, FL								X	X	X
Indicate (X) this row if the reference project was completed for the Authority														X

PROJECT LEGEND

Engineering Experience - Reference Projects	Hydrogeologic Experience - Reference Projects
1. Southwest 5.0 MGD RO Water Treatment Plant	1. Manatee County Deep Injection Well Expansion
2. Indian River County Department of Utility Services South Oslo Road Water Treatment Plant Rehabilitation and Expansion Project	2. Piney Point Injection Well System
3. Wellington Water Treatment Plant (WTP) Development and Rehabilitation	3. Brackish Wellfield Production Well No. 4 Testing and Evaluation
4. Considerations and Blending Strategies for Drinking Water System Integration with Alternative Water Supplies (WRF 4953)	4. Eastern and Intracoastal Wellfield Hydrogeologic Evaluation Report
5. Water Treatment Plant Water Quality Improvements	5. Regional Water Supply Authority Brackish Wellfield Water Use Permitting

Contract Holder E-Verify Registration and Affidavit

As provided in Section 33 of the Agreement, pursuant to Section 448.095, Florida Statutes, beginning January 1, 2021, Consultant shall register with and use the U.S. Department of Homeland Security's E-Verify system, (https://e-verify.uscis.gov/emp) to verify the work authorization status of all Consultant employees hired on and after January 1, 2021. Additionally, Consultant shall require all subconsultants performing work under this Agreement to use the E-Verify system for any employees hired on and after January 1, 2021. Consultant must provide evidence to the Authority of compliance with Section 448.095, Florida Statutes, prior to entering the Agreement

Affidavit

I hereby certify that Kimley-Horn and Associates, Inc. (Contract holder) does not employ, contract with, or subcontract with any unauthorized aliens, and is otherwise in full compliance with Section 448.095, Florida Statutes.

All employees hired on or ager January 1, 2021, have had their work authorization status verified through the E-Verify system.

A true and correct copy of Kimley-Horn and Associates, Inc. (Contract holder) proof of registration in the E-Verify system is attached to this Affidavit.

Signature 2/20/2023
Date

Lewis Bryant, P.E.
Print Name

STATE OF FL

COUNTY OF ORANGE

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization, this 20 day of FEBRUARY, 2023 by LEWIS BRYANT, P.E., VICE PRESIDENT (name of officer or agent, title of officer or agent) of KIMLEY-HORN AND ASSOCIATES, INC. (name of Consultant company acknowledging), a NC (state or place of incorporation) corporation, on behalf of the corporation. He/she is personally known to me or has produced _____ (type of identification) as identification.

Notary Public

MYRTHA A. RODRIGUEZ VILLARREAL
Commission # HH 217963
Expires May 16, 2026

Name typed, printed or stamped

My Commission Expires: 5/16/26

Kimley-Horn and Associates, Inc Profile ACTIVE

Company Information

Company Name
Kimley-Horn and Associates, Inc

Doing Business As (DBA) Name

Company ID
412062

Enrollment Date
May 02, 2011

Employer Identification Number (EIN)
560885615

Unique Entity Identifier (UEI)
DS7JWCWDLQU7

DUNS Number
061099131

Total Number of Employees
5,000 to 9,999

NAICS Code
541

Sector
Professional, Scientific, and Technical Services

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY by Lewis Bryant, P.E., VICE PRESIDENT
(Print individual's name and title)

for Kimley-Horn and Associates, Inc.
(Print name of entity submitting sworn statement)

whose business address is 1412 Jackson Street, Suite 2, Fort Myers, FL 33901

and (if applicable) its Federal Employer Identification Number (FEIN) is 56-0885615
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____).

2. I understand that a "public entity crime" as defined in Section 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, statement of qualifications, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:

a) A predecessor or successor of a person convicted of a public entity crime; OR

b) An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that a "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **(Indicate which statement applies.)**

✓ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives,

partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. **(Attach a copy of the Final Order.)**

I UNDERSTAND THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

Malcolm D. 2/20/23

(Signature) (Date)

STATE OF FL

COUNTY OF ORANGE

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 20 day of FEBRUARY, 2023 by LEWIS BRYANT, P.E. as VICE PRESIDENT of KIMLEY-HORN AND ASSOCIATES, INC. a NC company organized under the laws of the State of FLORIDA, on behalf of the company, who is personally known to me or has produced _____ as identification.

Notary Public

MYRTHA A. RODRIGUEZ VILLARREAL
Commission # HH 217963
Expires May 16, 2026

Name typed, printed or stamped

My Commission Expires: 5/16/26

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: Kimley-Horn and Associates, Inc.

Reference Entity: West Villages Improvement District and the City of North Port

Reference Contact Person: Brad Soule

Reference Address: 19503 South West Villages Parkway, Suite 44, Venice, FL 34393

Reference Email Address: brad.soule@mattamycorp.com

Reference Phone No.: 941.999.4822 x103

Project Name: Southwest 5.0-MGD RO Water Treatment Plant

Project Location: North Port, FL

Consultant Project Manager: Ashley Miele, P.E.

Contract Amount: $2,421,016 (Kimley-Horn Fee)

Date Project Commenced: August 2019

Date of Final Completion: June 2022

Description of Work Performed:

Kimley-Horn provided professional services for the design of a water treatment plant (WTP) to be located at the northwest corner of the intersection of the future West Villages Parkway and future Manasota Beach Road. The facility planned to utilize reverse osmosis (RO) membrane treatment and was constructed in three phases: Phase 1 (2.0 MGD), Phase 2 (1.0 MGD), and Phase 3 (1.0 MGD). Due to an aggressive schedule, the delivery method was Construction Manager at Risk (CMAR) and our team helped select and coordinated with the CMAR throughout design and preconstruction. Once constructed, the ownership of the facility was dedicated to the City of North Port for ownership, operation, and maintenance. Therefore, all design elements, manufacturer requirements and treatment preferences were approved by the City. Kimley-Horn prepared Preliminary Design Report, and provided WTP design services and construction plans, source water hydraulic modeling and water quality projections, environmental and permitting services, brackish water wellhead and main designs, and concentrate line design services.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: Kimley-Horn and Associates, Inc.

Reference Entity: Indian River County Department of Utility Services

Reference Contact Person: Terry Southard

Reference Address: 4350 41st Street, Vero Beach, FL 32967

Reference Email Address: tsouthard@ircgov.com

Reference Phone No.: 772.226.3404

Project Name: Indian River County Department of Utility Services South Oslo Road Water Treatment Plant Rehabilitation and Expansion Project

Project Location: Vero Beach, FL

Consultant Project Manager: Nick Black, P.E.

Contract Amount: $695,501 (Kimley-Horn Fee)

Date Project Commenced: December 2019

Date of Final Completion: Ongoing (Construction; Professional Services Completed December 2021)

Description of Work Performed:

Indian River County owns and operates the South Oslo Road Water Treatment Plant, an 8.57 MGD nanofiltration and brackish water blend facility that serves the southern portion of Indian River County. The facility is antiquated and needs major rehabilitation and replacement work to restore reliability, efficiency, and capacity. This project consisted of replacement of four 1.5-MGD nanofiltration (NF) trains with new, 1.875-MGD NF trains. Kimley-Horn also designed modifications to the feed water piping to train to dedicated pumps, process piping replacement, chemical storage and feed systems, and new high service pumping station providing peak hour flow capacity. This project included major electrical replacement and rehabilitation work including a new power distribution panel, Automatic Transfer Switch (ATS) Replacement, and conversion of existing air actuated valves to be electrically actuated valves. The project will result in increased treatment capacity of 9.0-MGD and will have additional improvements enhancing the redundancy and resiliency of the water treatment and distribution facility.

REFERENCES

Consultant must provide three (3) references for Example Projects.

Consultant Name: Kimley-Horn and Associates, Inc.

Reference Entity: Village of Wellington

Reference Contact Person: Jim Barnes

Reference Address: 14000 Greenbriar Boulevard, Wellington, FL 33414

Reference Email Address: 561.791.4000

Reference Phone No.: jbarnes@wellingtonfl.gov

Project Name: Wellington Water Treatment Plant (WTP) Development and Rehabilitation

Project Location: Wellington, FL

Consultant Project Manager: Nick Black, P.E.

Contract Amount: $409,830 (Kimley-Horn Fee)

Date Project Commenced: April 2016

Date of Final Completion: January 2020 (Construction)

Description of Work Performed:

This project involves improvements to the Village of Wellington's water treatment plant. Kimley-Horn assumed the role from another consultant to complete improvements, including adding high-service pumps; rehabilitating the old high service pumping station; replacing existing electrical equipment; updating the plant-wide SCADA system; replacing trench piping supports; adding a membrane train; membrane replacement of four existing trains; reconstruction of cleaning headers; new bulk and day fuel tanks; updating the sodium hypochlorite system; adding a new fluoride feed system; and expanding and upgrading the control room and operator facilities. Kimley-Horn provided design, permitting, and services during construction and start-up.

TAB D
Notice of Intended Decision

NOTICE OF INTENDED DECISION FOR AWARD OF CONTRACT –
PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
PROFESSIONAL SERVICES
PEACE RIVER BRACKISH GROUNDWATER FACILITY PROJECT SERVICES

Recommended Action - **Motion** to approve Professional Services Evaluation Committee recommendation and authorize the Executive Director to negotiate a contract, scope, and fee with Carollo Engineers for the Authority's 'Peace River Brackish Groundwater Facility Project'. The negotiated contract, scope and fee will be considered by the Authority Board at a future meeting.

In accordance with the Authority's Procurement Policy, Statements of Qualifications (SOQ) were requested from Consultants interested in providing professional design, engineering, inspection and geological services for feasibility, siting, capacity, design, permitting and construction management for the 'Peace River Brackish Groundwater Facility Project' (Project). Five SOQs were timely received by the March 13, 2023, submittal deadline and all five proposals were deemed responsive and were evaluated in accordance with the Authority Procurement Policy.

On March 20, 2023, the Authority's Professional Services Evaluation Committee held a Public Meeting and reviewed the SOQ proposals.

Staff recommends that the Authority Board of Directors approve the PSEC ranking below, and authorize the Executive Director to negotiate a contract, scope and fee for the 'Peace River Brackish Groundwater Facility Project' with Carollo Engineers, for consideration at a future Board meeting.

Rank	Firm	Location
1	Carollo Engineers	Sarasota
2	Black & Veatch	Tampa
3	Kimley Horn	Sarasota
4	AECOM	Ft. Myers
5	CHA Consulting	Tampa

Failure to file a protest within the time prescribed in section 120.57(3), Florida Statues, or failure to post the bond or other security requirement by law within the time allowed for filing a bond shall constitute a waiver of proceeding under chapter 120, Florida Statutes.

Posted: March 22, 2023

Peace River Manasota Regional Water Supply Authority
Brackish Groundwater Facility Project
PSEC Meeting: March 20, 2023 @ 2:00 PM
9415 Town Center Parkway, Lakewood Ranch, FL 34202

	Criteria						Totals
TEAM	1 (20 points)	2 (20 points)	3 (20 points)	4 (40 points)	5 (15 points)	6 (10 points)	(125 points)
AECOM	17.40	17.40	18.80	34.20	13.40	7.60	108.80
Black & Veatch	16.40	18.60	19.60	36.60	12.80	8.20	112.20
Carollo	19.40	19.40	19.20	38.80	14.80	10.00	121.60
CHA Consulting	17.60	18.60	17.00	33.40	11.00	8.20	105.80
Kimley-Horn	16.40	17.00	18.60	37.00	13.60	8.20	110.80

Criteria:

1 Project Manager & Management
2 Consultant Team's Engineering Experience
3 Consultant Team's Hydrogeologic Experience
4 Preliminary Project Understanding, Approach & Schedule
5 Well Construction Contractor Approach
6 Team Location & Collaboration (Key Personnel Chart)

Member Signatures:

Mike Knowles, Engineering Senior Manager, PRMRWSA

Jim Guida, Director of Water Resources/Planning, PRMRWSA

Andrew Greenbaum, Project Manager, PRMRWSA

Chris Rogers, Project Manager, PRMRWSA

Cliff Harrison, Sarasota County

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

TENTATIVE BUDGET
ITEM 1

Tentative Budget for FY 2024

Presenter - Mike Coates, Executive Director

Recommended Action - **Motion** to approve Tentative Budget for FY 2024 in the amount of $141,522,579.

In accordance with the 'Second Amended Interlocal Agreement Creating the Peace River Manasota Regional Water Supply Authority', the Authority is required to establish a tentative budget no later than May 15th of each ensuing year. Staff will present the proposed Tentative Budget for FY 2024 in the amount of $141,522,579.

The Tentative Budget for FY 2024 will be posted on the Authority's website and distributed for continued review by Authority members, customers, and the public. A public hearing is scheduled at which time the Board will adopt the final budget for FY 2024 during a regularly scheduled meeting on August 2, 2023.

Attachments:
Tab A FY 2024 Tentative Budget Presentation
Tab B FY 2024 Budget Cost Analysis and Water Rate and Charges Analysis
Tab C FY 2024 Tentative Budget
Tab D Historical Expenditures Comparison

TAB A
FY 2024 Tentative Budget Presentation



1

Tentative Budget for FY 2024

FY 2024 TENTATIVE BUDGET

Vision Statement

'Through cooperation and collaboration the Authority and its customers shall create, maintain and expand a sustainable, interconnected regional water supply system.'

Mission Statement

'To provide the region with a high quality, safe drinking water supply that is reliable, sustainable and protective of our natural resources now and into the future.'



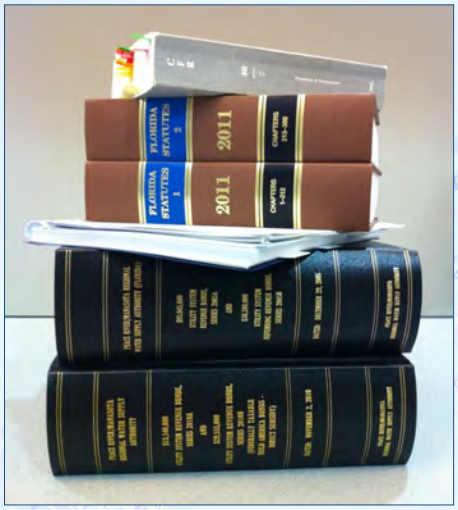




2

Tentative Budget for FY 2024

Budget Documents



- Second Amended Interlocal Agreement Creating the Peace River Manasota Regional Water Supply Authority (Amended 2005)
- Peace River Manasota Regional Water Supply Authority Master Water Supply Contract (Amended 2015)
- Resolution 2005-08 'Resolution Setting Forth Rate Setting Methodology' (Oct. 2005)
- Utility System Revenue Bonds
  - Series 2020
  - Series 2015
  - Series 2014B
- Budget Policies (Aug. 2020)
- 5-Year CIP and 20-Year CNA
- Strategic Plan for Peace River Manasota Regional Water Supply Authority (Revised 2021)

3

Tentative Budget for FY 2023

Budget Obligations





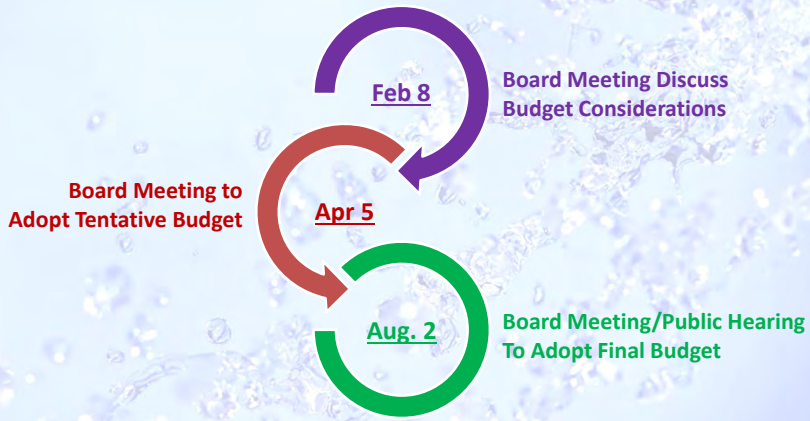
The Authority is contractually obligated to provide a reliable, safe and secure water supply to the region.

- MWSC water allocations [34.7 MGD]
- Customer demand projections [32 MGD]
- Efficient and cost-effective operations
- Appropriate investment to maintain infrastructure
- Plan for long term water demands
- Maintain financial stability/bond rating
- Maintain reasonable water rates

4

Tentative Budget for FY 2024

Budget Calendar

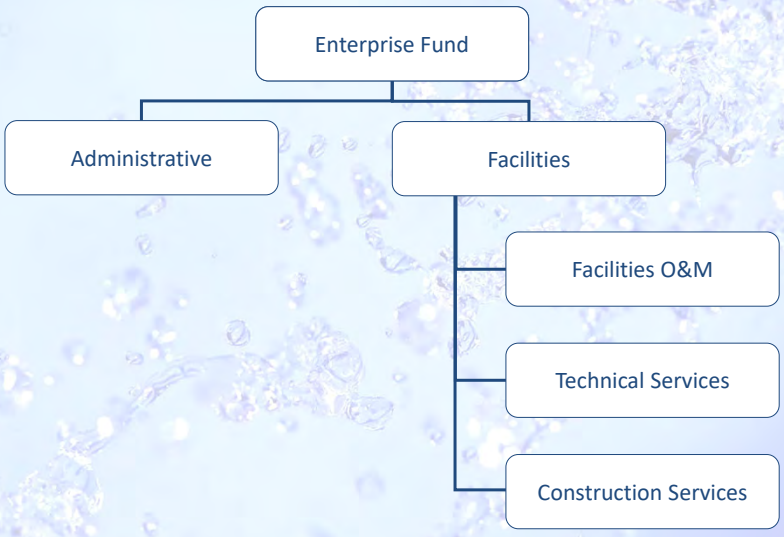


FY 2024 Budget documents available to the public @ *regionalwater.org*

5

Tentative Budget for FY 2024

Enterprise Fund



6

Tentative Budget for FY 2024

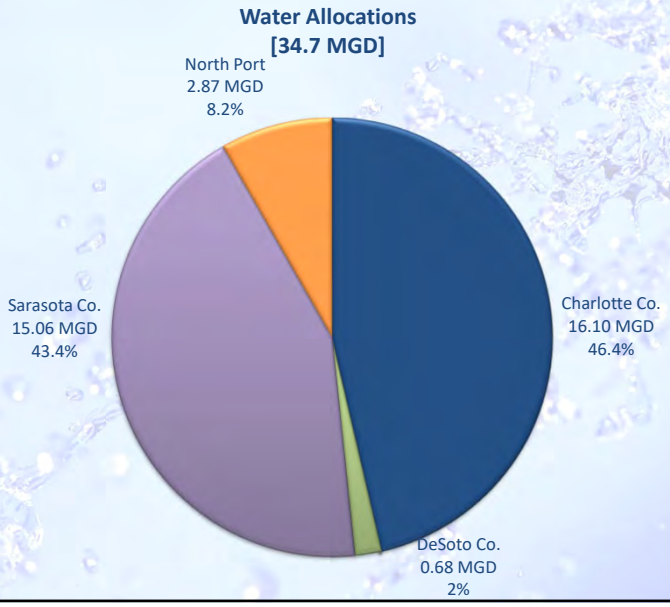
Tentative Budget

	FY 2023 Budget	FY 2024 Tentative Budget	Increase/ (Decrease)
Administrative Office	$ 525,139	$ 561,245	$ 36,106
Facilities	$ 77,802,389	$ 140,961,334	$ 63,158,945
Total Enterprise Fund	$ 78,327,527	$ 141,522,579	$ 63,195,051

7

Tentative Budget for FY 2024

MWSC Water Allocations



8

Tentative Budget for FY 2024

Water Rate Components

Water Rate is established by resolution of the Authority for the sale of water and comprised of two components:

Water Rate = Base Rate Charge [Allocation] + Water Use Charge [Actual Use]

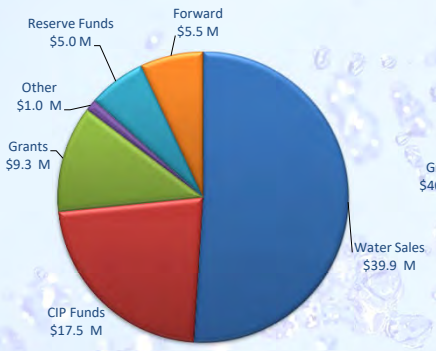
Conservation Charge for Exceedance applies for exceeding MWSC water allocation.

9

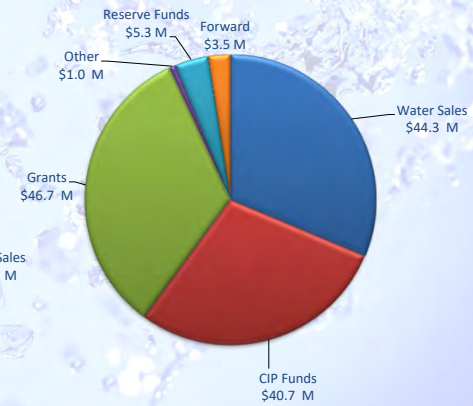
Tentative Budget for FY 2024

Sources of Revenue

FY 2023 Available Funds
$78.3 M



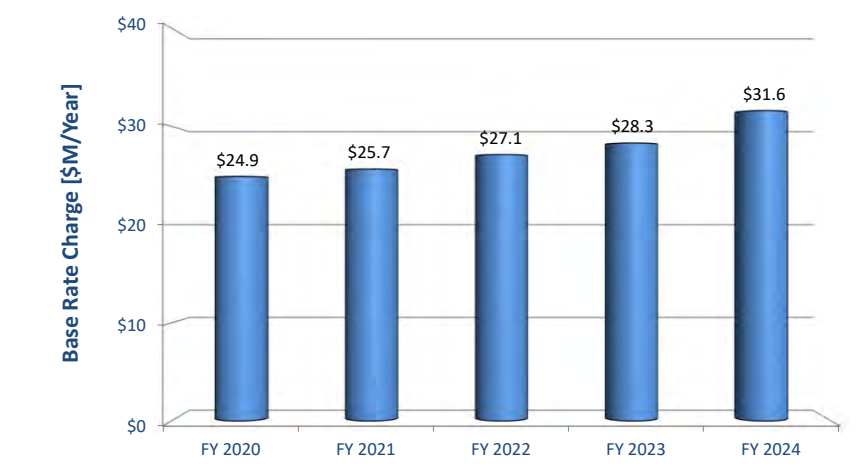
FY 2024 Available Funds
$141.5 M



10

Tentative Budget for FY 2024

Historical Base Rate Charge



11

Tentative Budget for FY 2023

Water Rate

Customer Water Rate	FY 2023 Budget	FY 2024 Tentative Budget	Increase/ (Decrease)
Base Rate Charge ($ for FY)			
• Charlotte Co.	$ 10,256,641	$ 11,798,279	$ 1,541,638
• DeSoto Co	$ 637,880	$ 707,572	$ 69,692
• Manatee Co.	$ 104,523	$ 78,232	$ (26,291)
• Sarasota Co.	$ 14,834,567	$ 16,271,576	$ 1,437,009
• North Port	$ 2,492,842	$ 2,766,759	$ 273,917
	$ 28,326,452	$ 31,622,417	$ 3,295,965
Water Use Charge ($/1,000 Gal)	$ 0.89	$ 1.09	$ 0.20

12

Tentative Budget for FY 2024

Historical Water Use Charge



13

Tentative Budget for FY 2024

Water Rate

Unit Rate increase spread over 3 years (2023-2025)

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Override ▶		8.54%	8.99%	8.25%							
Water Use Charge - $ / KGAL	0.82	0.89	0.97	1.05	1.09	1.12	1.15	1.18	1.22	1.25	1.29
Last Plan	0.82	0.99	1.02	1.05	1.08	1.12	1.15	1.18	1.22	1.25	1.29
Charlotte - Base Rate Charge	811.6	877.4	1,034.2	1,317.4	1,592.2	1,846.9	1,986.9	2,066.8	2,092.3	2,122.1	2,160.1
Last Plan	811.6	877.4	1,029.1	1,281.9	1,567.2	1,847.8	1,987.2	2,066.8	2,092.3	2,122.1	2,160.1
DeSoto - Base Rate Charge	47.8	54.2	55.2	64.1	72.4	82.3	88.1	75.0	76.1	77.4	79.1
Last Plan	47.8	54.2	55.0	62.6	71.4	82.3	88.1	75.0	76.1	77.4	79.1
Sarasota - Base Rate Charge	1,196.9	1,257.4	1,495.5	1,783.1	1,990.4	2,229.3	2,373.7	2,446.0	2,468.2	2,506.1	2,571.6
Last Plan	1,196.9	1,257.4	1,490.7	1,749.9	1,967.0	2,229.3	2,373.4	2,446.0	2,468.2	2,506.1	2,571.6
North Port - Base Rate Charge	200.3	211.8	231.8	269.1	304.8	346.5	370.8	411.0	415.1	420.3	426.8
Last Plan	200.3	211.8	230.9	262.8	300.4	346.5	370.8	411.0	415.1	420.3	426.8
Manatee - Base Rate Charge	3.6	8.7	14.2	20.7	28.3	42.5	56.6	66.2	68.5	82.5	120.3
Last Plan	3.6	8.7	14.2	20.7	28.3	42.5	56.6	66.2	68.5	82.5	120.3
Rate Covenant Test	1.54	1.51	1.63	1.65	1.55	1.50	1.50	1.50	1.50	1.50	1.50
Last Plan	1.54	1.82	1.66	1.59	1.51	1.50	1.50	1.50	1.50	1.50	1.50

Monthly Charge in Thousands

	FY 2022	FY 2023	FY 2024	FY 2025
Override ▶		8.54%	8.99%	8.25%
Water Use Charge - $ / KGAL	0.82	0.89	0.97	1.05
Last Plan	0.82	0.99	1.02	1.05

14

Tentative Budget for FY 2024

Member Fee

Member Fee	FY 2023 Budget	FY 2024 Tentative Budget	Increase/ (Decrease)
Member Fee ($ for FY)			
• Charlotte Co.	$ 92,393	$ 99,547	$ 7,154
• DeSoto Co.	$ 60,451	$ 64,926	$ 4,475
• Manatee Co.	$ 136,773	$ 146,949	$ 10,176
• Sarasota Co.	$ 142,868	$ 153,397	$ 10,529
	$ 432,486	$ 464,819	$ 32,334

Base Contribution = ½ amount divided by 4
Pro-Rata Share = ½ amount based on pro rata share of total 4-county population

15

Tentative Budget for FY 2024

Management & Planning Assessment

Member/Customer Planning Assessment	FY 2023 Budget	FY 2024 Tentative Budget	Increase/ (Decrease)
Assessment ($ for FY)			
• Charlotte Co.	$ 84,201	$ 84,704	$ 503
• DeSoto Co.	$ 14,038	$ 13,945	($ 93)
• Manatee Co.	$ 181,687	$ 181,586	($ 101)
• Sarasota Co.	$ 160,554	$ 159,537	($1,017)
• North Port	$ 34,520	$ 35,228	$ 708
	$ 475,000	$ 475,000	$ 0

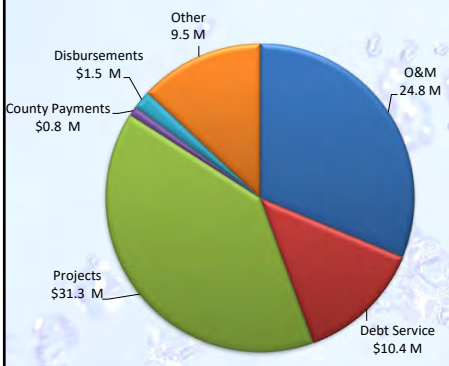
Assessments based on each customers pro rata share of total 4-county population

16

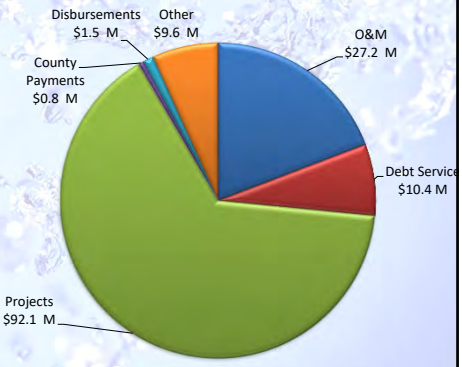
Tentative Budget for FY 2024

Major Expenditures

2023 Budgeted Expenditures
$78.3 M



2024 Budgeted Expenditures
$141.5 M



17

Tentative Budget for FY 2024

Budget Highlights

- Operation & Maintenance
  - Power and Chemical costs increased significantly
  - Personnel compensation increase budgeted at 7%
    - 4% COLA
    - 3% Merit
  - One new personnel position to achieve Strategic Plan goals and objectives
    - Project Engineer
  - Repairs and Maintenance increased with inflation
  - No increase to Contract Services or Machinery & Equipment

18

Tentative Budget for FY 2023

Budget Highlights

- Other Rate Related Expenditures
  - Contribution to R&R Reserve increased
  - Transfer to CIP for PR3 Project
  - Transfer to System-Wide Benefit CIP
  - Transfer to Utility Reserve Fund

19

Tentative Budget for FY 2024

Budget Highlights

- CIP Projects Expense

Project	FY 2024 Expenditures	CIP Funds	SWFWMD Grants	State Grants
PR3 Final Design & CMAR	$27,179,133	$5,121,266	$15,057,867	$7,000,000
Phase 2B Regional Interconnect	$22,900,000	$9,003,906	$13,896,094	$0
Phase 3C Regional Interconnect	$25,919,716	$15,175,397	$10,744,319	$0
Brackish GW Facility - 30% Design	$9,125,000	$9,125,000	$0	$0
Kings Hwy Pipeline Replacement	$250,000	$250,000	$0	$0
Total	$85,373,849	$38,675,569	$39,698,280	$7,000,000
Source		LOC	SWFWMD	State

- System-Wide Benefit Projects Expense

Project	FY 2024 Expenditures	CIP Funds	SWFWMD Grants	State Grants
Partially Treated Water ASR	$500,000	$0	$0	$500,000
Water Resources/ Construction Bldg	$1,500,000	$1,500,000	$0	$0
Total	$2,000,000	$1,500,000	$0	$500,000
Source		LOC	SWFWMD	State

20

Tentative Budget for FY 2024

Budget Highlights

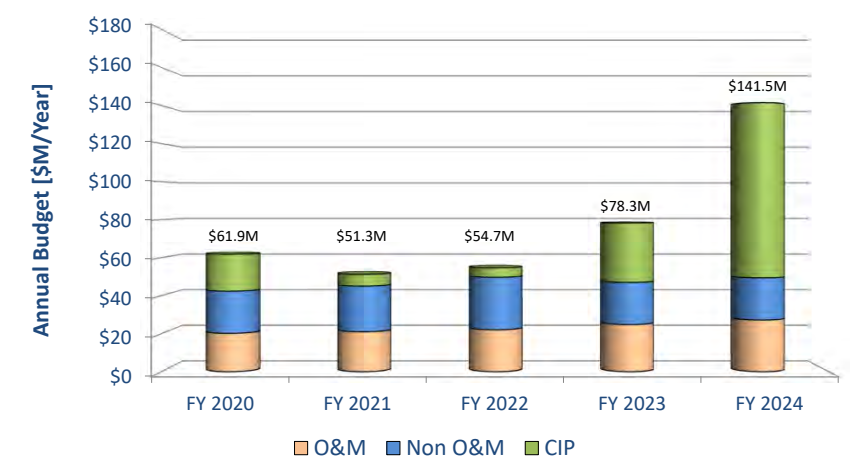
- Non-Rate Related Expenditures: Fund Disbursements

Customer Fund Disbursements	Debt Coverage from FY 2023
Disbursement/Credit ($ for FY)	
• Charlotte Co.	$ 336,727
• DeSoto Co	$ 35,681
• Manatee Co.	$ 0
• Sarasota Co.	$ 999,771
• North Port	$ 147,298
	$ 1,519,477

21

Tentative Budget for FY 2024

Historical Budgets



22



23

Tentative Budget for FY 2024

Staff Recommendation

Motion to approve Tentative Budget for FY 2024 in the amount of $141,522,579.

24

TAB B
FY 2024 Budget Cost Analysis and Water Rate and Charges Analysis

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

BUDGET COST ANALYSIS			
Enterprise Fund	**FY 2023 Approved**	**FY 2024 Tentative**	**Variance +/-**
AVAILABLE FUNDS			
Water Sales	$ 39,917,521	$ 44,303,008	$ 4,385,487
Member Fee	$ 432,486	$ 464,819	$ 32,334
Customer Planning Assessment	$ 475,000	$ 475,000	$ -
Subtotal	$ 40,825,006	$ 45,242,827	$ 4,417,821
Estimated Unencumbered Funds from Prior Year	$ 5,519,868	$ 3,519,477	$ (2,000,391)
Federal Direct Payment	$ -	$ -	$ -
Interest Income	$ 40,000	$ 40,000	$ -
Rent Income	$ 92,653	$ 96,426	$ 3,772
Reserve Accounts	$ 5,000,000	$ 5,250,000	$ 250,000
CIP Fund	$ 17,537,000	$ 40,675,569	$ 23,138,569
Grants	$ 9,313,000	$ 46,698,280	$ 37,385,280
Total Sources	**$ 78,327,527**	**$ 141,522,579**	**$ 63,195,051**
EXPENDITURES			
Insurances	$ 643,500	$ 1,048,500	$ 405,000
Personnel	$ 7,345,056	$ 8,042,669	$ 697,613
Utilities	$ 2,755,469	$ 3,424,890	$ 669,421
Operating Supplies	$ 135,000	$ 125,000	$ (10,000)
Water Treatment Chemicals	$ 8,643,275	$ 9,087,708	$ 444,433
Repairs & Maintenance	$ 2,217,000	$ 2,376,000	$ 159,000
Machinery & Equipment	$ 200,000	$ 200,000	$ -
Contract Services	$ 2,346,500	$ 2,346,500	$ -
General Administration	$ 483,500	$ 516,500	$ 33,000
Subtotal	$ 24,769,300	$ 27,167,768	$ 2,398,467
Debt Service	$ 11,893,706	$ 11,889,564	$ (4,142)
County Payments	$ 796,000	$ 796,000	$ -
Contingencies	$ 500,000	$ 500,000	$ -
Transfer to R&R Account	$ 4,000,000	$ 4,250,000	$ 250,000
Transfer to CIP	$ 3,132,594	$ 1,894,860	$ (1,237,734)
Transfer to Utility Reserve Fund	$ 391,059	$ 1,406,061	$ 1,015,001
Transfer to Disaster Recovery Reserve Fund	$ -	$ -	$ -
Water Purchase	$ -	$ -	$ -
Projects	$ 31,325,000	$ 92,098,849	$ 60,773,849
Fund Disbursements	$ 1,519,868	$ 1,519,477	$ (391)
Total Uses	**$ 78,327,527**	**$ 141,522,579**	**$ 63,195,051**

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

WATER RATE AND CHARGES ANALYSIS			
Fixed Charges	**FY 2023 Approved**	**FY 2024 Tentative**	**Variance +/-**
Charlotte County			
Base Charge	$ 10,270,957	$ 11,814,283	$ 1,543,326
Base Charge - Pool Water	$ (14,316)	$ (16,004)	$ (1,689)
Member Contribution	$ 92,622	$ 99,547	$ 6,925
Planning Assessment	$ 84,704	$ 84,704	$ -
Subtotal	$ 10,433,968	$ 11,982,530	$ 1,548,562
DeSoto County			
Base Charge	$ 595,887	$ 660,626	$ 64,738
Base Charge - Pool Water	$ 41,993	$ 46,946	$ 4,954
Member Contribution	$ 60,409	$ 64,926	$ 4,516
Planning Assessment	$ 13,945	$ 13,945	$ -
Subtotal	$ 712,235	$ 786,443	$ 74,208
Manatee County			
Base Charge	$ 104,523	$ 78,232	$ (26,291)
Member Contribution	$ 136,727	$ 146,949	$ 10,222
Planning Assessment	$ 181,586	$ 181,586	$ -
Subtotal	$ 422,836	$ 406,767	$ (16,069)
Sarasota County			
Base Charge	$ 14,857,472	$ 16,297,183	$ 1,439,711
Base Charge - Pool Water	$ (22,905)	$ (25,607)	$ (2,702)
Member Contribution	$ 142,727	$ 153,397	$ 10,671
Planning Assessment	$ 159,537	$ 159,537	$ -
Subtotal	$ 15,136,830	$ 16,584,511	$ 1,447,680
City of North Port			
Base Charge	$ 2,497,613	$ 2,772,094	$ 274,480
Base Charge - Pool Water	$ (4,772)	$ (5,335)	$ (563)
Member Contribution	$ -	$ -	$ -
Planning Assessment	$ 35,228	$ 35,228	$ -
Subtotal	$ 2,528,069	$ 2,801,986	$ 273,917
Enterprise Fund			
Base Charge	$ 28,326,452	$ 31,622,417	$ 3,295,965
Base Charge - Pool Water	$ -	$ -	$ -
Member Contribution	$ 432,486	$ 464,819	$ 32,334
Planning Assessment	$ 475,000	$ 475,000	$ -
Total	$ 29,233,938	$ 32,562,237	$ 3,328,299

Variable Charges	**FY 2023 Approved**	**FY 2024 Tentative**	**Variance +/-**
Water Use Rate Charge			
$/1,000 gallons	$0.89	$1.09	$0.20

TAB C
FY 2024 Tentative Budget

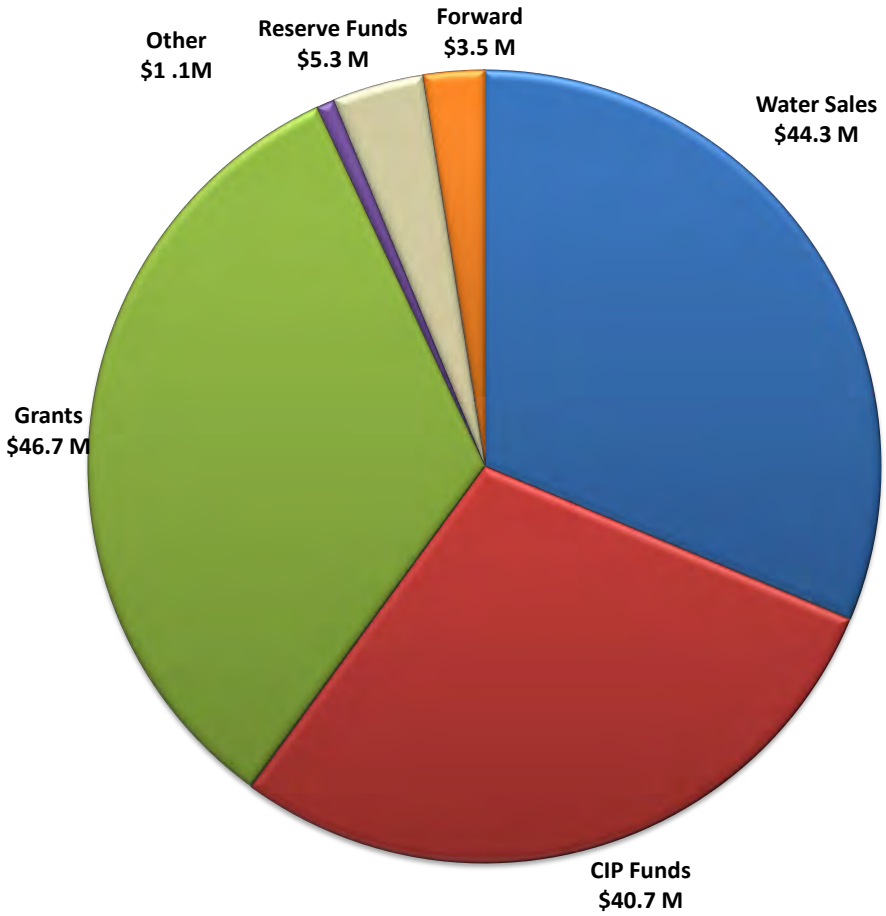


Peace River
Manasota
Regional Water Supply Authority

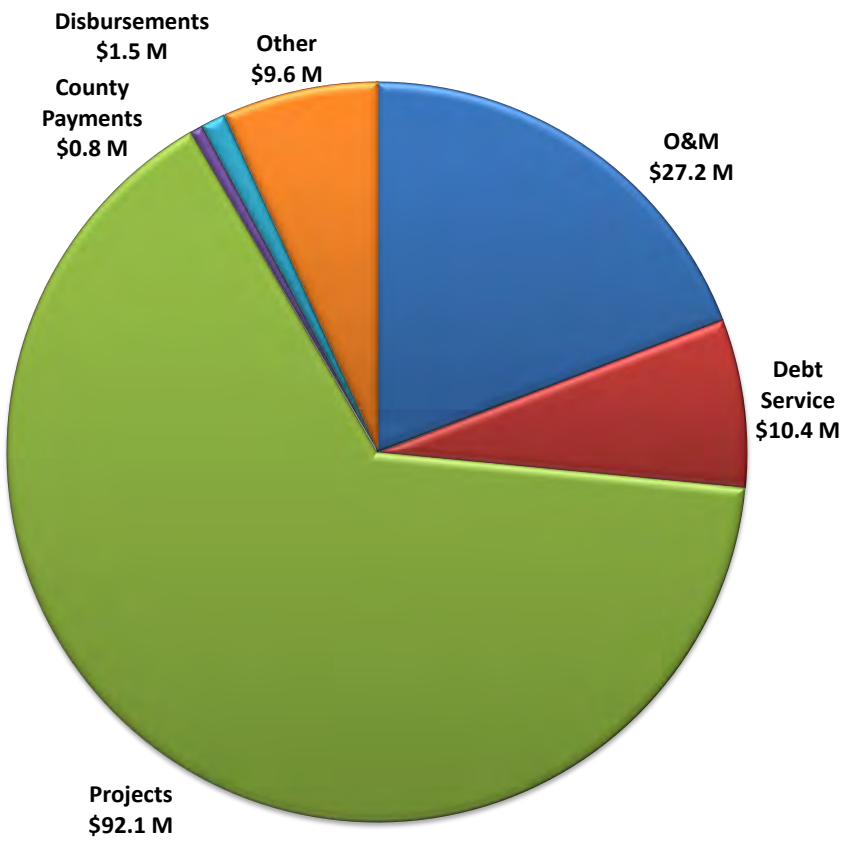
Tentative Budget for FY 2024

[April 5, 2023]

AVAILABLE FUNDS
$141.5 M



EXPENDITURES
$141.5 M



Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

AVAILABLE FUNDS	Administrative Office	Facilities	Total Enterprise Fund
Revenue			
Water Sales		44,303,008	44,303,008
Member Fee	464,819		464,819
Planning Assessment		475,000	475,000
Anticipated interest		40,000	40,000
Rent Income [including CAM]	96,426		96,426
Subtotal	561,245	44,818,008	45,379,253
Grants			
State Grant Funds		7,000,000	7,000,000
SWFWMD Grant Funds		39,698,280	39,698,280
Subtotal		46,698,280	46,698,280
Reserve Accounts			
Transfer from R&R Reserve Account		4,250,000	4,250,000
Transfer from Rate Stabilization		1,000,000	1,000,000
Subtotal		5,250,000	5,250,000
CIP Fund			
CIP Project Funds		-	-
CIP Project Funds (From Financing)		38,675,569	38,675,569
System-Wide Benefit CIP Project Funds		2,000,000	2,000,000
Subtotal		40,675,569	40,675,569
Funds Brought Forward			
Carry Forward from FY2023		2,000,000	2,000,000
Funds Brought Forward for Disbursement		1,519,477	1,519,477
Subtotal	-	3,519,477	3,519,477
Total Funds Available	**$ 561,245**	**$ 140,961,334**	**$ 141,522,579**

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
OPERATION & MAINTENANCE			
Insurances			
Property/Liability/Worker's Compensation		1,000,000	1,000,000
Auto		40,000	40,000
Public Officials Liability	8,500		8,500
Subtotal	8,500	1,040,000	1,048,500
Personnel			
Administration	540,344	416,724	957,068
Facility Operations/Maintenance/Technical Services		4,091,900	4,091,900
Subtotal	540,344	4,508,624	5,048,968
Benefits			
FICA Taxes	41,336	339,800	381,136
Fla. Retirement System	118,197	776,560	894,757
Health Insurance	149,573	1,568,236	1,717,808
Subtotal	309,106	2,684,595	2,993,701
Utilities			
Electric Power	19,008	3,242,882	3,261,890
Diesel Fuel	-	20,000	20,000
Vehicle Fuel	12,000	50,000	62,000
Telephone	6,000	75,000	81,000
Subtotal	37,008	3,387,882	3,424,890
Operating Supplies			
General Operations		50,000	50,000
Laboratory Supplies		75,000	75,000
Subtotal	-	125,000	125,000
Water Treatment Chemicals			
Aluminum Sulfate		2,913,803	2,913,803
Sodium Hydroxide		2,159,864	2,159,864
Carbon		2,768,344	2,768,344
Coagulant Aid		149,618	149,618
Sodium Hypochlorite		853,416	853,416
Aqua Ammonia		119,809	119,809
Copper Sulfate		122,854	122,854
Subtotal		9,087,708	9,087,708

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
Repairs & Maintenance			
Water Treatment Facilities		1,100,000	1,100,000
Water Resources		600,000	600,000
Land Management		450,000	450,000
Regional Transmission System		140,000	140,000
ASR		50,000	50,000
Vehicle Fleet Maintenance	1,000	35,000	36,000
Subtotal	1,000	2,375,000	2,376,000
Machinery & Equipment			
Machinery & Equipment		200,000	200,000
Contract Services			
Annual Audit	4,000	30,000	34,000
Engineering Services - General		225,000	225,000
Hydrogeological Services		175,000	175,000
Environmental Services		150,000	150,000
Rate Consulting Services		65,000	65,000
Information/Technology Services	38,000	65,000	103,000
Reservoir Permit Monitoring		260,000	260,000
Equipment Rental	7,000	50,000	57,000
Legal Services	25,000	275,000	300,000
Legislative Monitoring Services		45,000	45,000
Off-Site Treatment Residual Hauling and Disposal		350,000	350,000
Outside Lab Services - Drinking Water/ASR/EPA		75,000	75,000
Watershed Programs/Monitoring/Protection [HBMP, MFL, Stewardship]		400,000	400,000
Charlotte Harbor NEP		3,500	3,500
Uniforms		18,000	18,000
Contract Labor		25,000	25,000
Contract Services - Other	6,000	55,000	61,000
Subtotal	80,000	2,266,500	2,346,500

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
General Administration			
Office Maintenance/Improvements	5,000	-	5,000
Administrative Office Common Area Maintenance	40,000	-	40,000
Advertising	1,000	8,000	9,000
Software	-	95,000	95,000
Office Supplies	23,000	40,000	63,000
Postage/Shipping	1,000	4,000	5,000
Books, Dues, Subs & Memberships	8,000	25,000	33,000
Training	2,000	20,000	22,000
Professional Development/Cont. Education	15,000	25,000	40,000
Mileage/Travel Reimbursement	15,000	35,000	50,000
Public Outreach/Education Programs/Website	55,000	50,000	105,000
Misc. Fees [permits, registrations, licenses, certifications, bank charges]	14,500	35,000	49,500
Subtotal	179,500	337,000	516,500
Total - Operations & Maintenance	**$ 1,155,458**	**$ 26,012,310**	**$ 27,167,768**

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
NON-OPERATION & MAINTENANCE			
Annual Debt Service			
2014 Bond Series		2,795,750	2,795,750
2015 Bond Series		2,527,000	2,527,000
2020 Bond Series		4,800,650	4,800,650
2019 Series Note	247,654		247,654
Subtotal	247,654	10,123,400	10,371,054
County Payments			
DeSoto Payment		796,000	796,000
Subtotal		796,000	796,000
Other Rate Related Expenditures			
Contribution to R&R Reserve		4,250,000	4,250,000
Transfer to CIP (PR^3)		-	-
Transfer to System-Wide Benefit CIP		1,894,860	1,894,860
Transfer to Utility Reserve Fund		1,406,061	1,406,061
Disaster Recovery Reserve		-	-
Contingencies		500,000	500,000
Water Purchase		-	-
Debt Service Coverage Fund		1,518,510	1,518,510
Administrative Costs	(841,867)	841,867	-
Subtotal	(841,867)	10,411,298	9,569,431
Total Rate Related Expenditures	**$ 561,245**	**$ 47,343,008**	**$ 47,904,253**

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

EXPENDITURES	Administrative Office	Facilities	Total Enterprise Fund
NON-RATE RELATED EXPENDITURES			
Projects			
CIP Projects		87,373,849	87,373,849
Renewal & Replacement Projects		4,250,000	4,250,000
Management & Planning Projects		475,000	475,000
Subtotal		92,098,849	92,098,849
Fund Disbursements (Debt Coverage Payment FY2022)			
Charlotte County		336,727	336,727
DeSoto County		35,681	35,681
Sarasota County		999,771	999,771
North Port		147,298	147,298
Subtotal		1,519,477	1,519,477
Total Non-Rate Related Expenditures		**93,618,326**	**93,618,326**
Total Expenditures	**$ 561,245**	**$ 140,961,334**	**$ 141,522,579**

DEBT SERVICE

Customer	2014B Bond Series	2015 Bond Series	2020 Bond Series	Total
Charlotte County	$ 734,164	$ 600,415	$ 908,924	$ 2,243,503
DeSoto County	$ 22,925	$ 181,439	$ 33,474	$ 237,838
Manatee County	$ -	$ -	$ -	$ -
Sarasota County	$ 1,748,742	$ 1,745,146	$ 3,166,559	$ 6,660,446
City of North Port	$ 289,919	$ -	$ 691,693	$ 981,613
Total	$ 2,795,750	$ 2,527,000	$ 4,800,650	$ 10,123,400

2019 Series Note (Administrative Office)	$ 247,654

CAPITAL IMPROVEMENT PROGRAM
Funded CIP Projects

Item No.	CIP Project	FY 2024 Expenditures	Source of Funds			
			CIP Funds	SWFWMD Grant Funds	State Grant Funds	FY 2024 Total
1	Reservoir No. 3 - Final Design & CMAR	27,179,133	5,121,266	15,057,867	7,000,000	27,179,133
2	Regional Integrated Loop - Phase 2B - PDB	22,900,000	9,003,906	13,896,094		22,900,000
3	Regional Integrated Loop - Phase 3C - PDB	25,919,716	15,175,397	10,744,319		25,919,716
4	Brackish Groundwater RO Facility - Preliminary Design	9,125,000	9,125,000			9,125,000
5	Kings Highway Pipeline Replacement (Charlotte Co)	250,000	250,000			250,000
	Total	$ 85,373,849	$ 38,675,569	$ 39,698,280	$ 7,000,000	$ 85,373,849

Item No.	System Wide Benefit CIP Project	FY 2024 Expenditures	Source of Funds			
			CIP Funds	SWFWMD Grant Funds	State Grant Funds	FY 2024 Total
1	Partially Treated Surface Water ASR	500,000	-	-	500,000	500,000
2	Water Resources/Construction Dept. Building	1,500,000	1,500,000	-	-	1,500,000
	Total	$ 2,000,000	$ 1,500,000	$ -	$ 500,000	$ 2,000,000

MANAGEMENT & PLANNING PROJECTS

Item No.	Planning Projects	FY 2024 Expenditure	Funds Brought Forward	Other Funding	FY 2024 Assessment
1	MWSC Modifications	50,000	-	-	50,000
2	Polk Regional Water Cooperative Coordinating Committee	25,000	-	-	25,000
3	Regional Water Supply Planning	400,000		-	400,000
	Total	$ 475,000	$ -	$ -	$ 475,000

SYSTEM-WIDE BENEFIT CIP PROJECT CONTRIBUTION ALLOCATION
10/01/2023 to 09/30/2024

Cost Allocation

[Annual costs to be allocated]	Total	Annual Cost Allocation (1)			
		Filter Covers (2)	Partially Treated Water ASR Project (3)	Ranch House Replacement (3)	Project Prairie Pump Station Acquisition (3)
Charlotte County	842,931	463,977	-	369,313	9,641
DeSoto County	35,302	19,452	-	15,446	403
Manatee County	78,232	-	-	76,241	1,990
Sarasota County	788,395	434,006	-	345,373	9,016
City of North Port	150,000	82,565	-	65,720	1,716
Total	$ 1,894,860	$ 1,000,000	$ -	$ 872,094	$ 22,766

(1) Annual Cost Allocation included in Base Rate Charge.
(2) Cost Allocation Pro-Rate Existing Water Allocation.
(3) Cost Allocation Pro-Rate Forecast Water Allocation.

Water Allocation

	Existing Water Allocation (4)		Forecast Water Allocation (5)	
	Water Allocation [MGD]	Water Allocation [Percentage]	Water Allocation [MGD]	Water Allocation [Percentage]
Charlotte County	16.100	46.40%	24.220	42.35%
DeSoto County	0.675	1.95%	1.013	1.77%
Manatee County	0.000	0.00%	5.000	8.74%
Sarasota County	15.060	43.40%	22.650	39.60%
City of North Port	2.865	8.26%	4.310	7.54%
Total	34.700	100.00%	57.193	100.00%

(4) Peace River/Manasota Regional Water Supply Authority Master Water Supply Contract - Exhibit B 'Water Allocations'.
(5) Forecast of Potential Water Allocation for 2040 for cost allocation calculation [does not represent contracted allocation or obligation].

WATER RATE [Authority Customers]

10/01/2023 to 09/30/2024

Total Monthly Water Charge to Customers		
[Charge per Month]	Monthly Charge = Base Rate Charge + (Water Use Charge x Actual Water Delivered)	
Base Rate Charge		
[Annual costs to be allocated]	Totals	
Other Rate Related Expenditures		
Fixed O & M Cost Component	13,331,719	
Contribution to R & R Reserve	4,250,000	
Transfer to CIP (PR^3)	-	
Contingencies	500,000	
Transfer to Utility Reserve Fund	1,406,061	
Transfer to Disaster Recovery Reserve	-	
Transfer to Administrative Fund	841,867	
Projected Interest Earned	(40,000)	
Transfer from Rate Stabilization Reserve	(1,000,000)	
Funds Brought Forward	(2,000,000)	
Sub-Total Other Rate Related Expenditures	$ 17,289,647	
Water Purchase	0	
Total Other Rate Related Expenditures	$ 17,289,647	
Debt Service Cost		
2014 Bonds	2,795,750	
2015 Bonds	2,527,000	
2020 Bonds	4,800,650	
Total Debt Service	$ 10,123,400	
Debt Service Coverage Payments	$ 1,518,510	
Debt Service Contributions	$ -	
County Payments		
DeSoto Payment	796,000	
Total County Payments	$ 796,000	
System-Wide CIP Contribution		
Transfer out to CIP	1,894,860	
Total Base Rate Charge	$ 31,622,417	

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

Annual Base Rate Charge By Customer

	Total	Other Rate Related Expenditures	2014B Bonds	2015 Bonds	2020 Bonds	Debt Service Coverage Payment	DeSoto Payment	System-Wide CIP Contribution	Pool Water Redistribution
Charlotte County	11,798,279	8,021,998	734,164	600,415	908,924	336,526	369,326	842,931	(16,004)
DeSoto County	707,572	336,326	22,925	181,439	33,474	35,676	15,484	35,302	46,946
Manatee County	78,232	-	-	-	-	-	-	78,232	0
Sarasota County	16,271,576	7,503,807	1,748,742	1,745,146	3,166,559	999,067	345,469	788,395	(25,607)
City of North Port	2,766,759	1,427,517	289,919	-	691,693	147,242	65,722	150,000	(5,335)
Total	$ 31,622,417	$ 17,289,647	$ 2,795,750	$ 2,527,000	$ 4,800,650	$ 1,518,510	$ 796,000	$ 1,894,860	$ -

Monthly Base Rate Charge By Customer

Charlotte County	983,190
DeSoto County	58,964
Manatee County	6,519
Sarasota County	1,355,965
City of North Port	230,563
Total	$ 2,635,201

Water Use Charge

[Charge per 1,000 gallons]	Total
Water Use Rate Charge	$1.09

Master Water Supply Contract Water Allocation

Million Gallons Per Day [MGD]	Annual Average Daily [MGD]
Charlotte County	16.100
DeSoto County	0.675
Manatee County	0.000
Sarasota County	15.060
City of North Port	2.865
Total	34.700

MEMBER FEE

10/01/2023 to 09/30/2024

Contribution Amount to be Derived

	Totals
Administrative Office Authority Support	$ 561,245
Projected Interest Earned	$ -
Rental Income	$ (96,426)
Amount to be Derived	$ 464,819

Population Basis

	*Population 12/21/2022	% of Total Population
Charlotte County	196,742	17.83%
DeSoto County	32,391	2.94%
Manatee County	421,768	38.23%
Sarasota County	452,378	41.00%
Total	1,103,279	100.00%

Weighted Contribution

	Base Contribution	Pro Rated Share	
Charlotte County	$ 58,102	$ 41,444	$ 99,547
DeSoto County	$ 58,102	$ 6,823	$ 64,926
Manatee County	$ 58,102	$ 88,847	$ 146,949
Sarasota County	$ 58,102	$ 95,295	$ 153,397
Total Weighted Contribution			$ 464,819

Member Contribution Formula:

Base Contribution = 1/2 amount to be derived divided by 4

Pro rated share = 1/2 amount to be derived times % of Population

* Source: 'Florida Estimates of Population 2022' [Bureau of Economic and Business Research; University of Florida, December 21, 2022]

PLANNING ASSESSMENT
10/01/2023 to 09/30/2024

Planning Assessments [Annual costs to be allocated]	Total	Planning Assessment Allocation (1)		
		MWSC Modifications	Polk Regional Water Cooperative Coordinating Committee	Regional Water Supply Feasibility Planning
Charlotte County	84,704	8,916	4,458	71,330
DeSoto County	13,945	1,468	734	11,744
Manatee County	181,586	19,114	9,557	152,914
Sarasota County	159,537	16,793	8,397	134,347
City of North Port	35,228	3,708	1,854	29,665
Total	$ 475,000	$ 50,000	$ 25,000	$ 400,000

(1) Planning Assessment invoiced on October 1, 2019.
(2) Plannng Assessment Allocation Pro-Rata Population.

Population	*Population 12/21/2022	Population [Percentage]
Charlotte County	196,742	17.83%
DeSoto County	32,391	2.94%
Manatee County	421,768	38.23%
Sarasota County	370,555	33.59%
City of North Port	81,823	7.42%
Total	1,103,279	100.00%

* Source: 'Florida Estimates of Population 2022' [Bureau of Economic and Business Research; University of Florida, December 21, 2022]

INTERCONNECT WATER CHARGE [GOVERNMENT RATE]

10/01/2023 to 09/30/2024

Water Charge to Municipalities Interconnected to Regional Transmission System		
[Charge per 1,000 Gallons]		
Water Rate		
[Charge per 1,000 Gallons]		
	$3.30	Water Rate Charge in $/1,000 gallons metered water delivery for cumulative delivery to all interconnects up to quantity identified a 'Available from Pool' in the Redistribution Pool for the current fiscal year
	$6.60	Water Rate Charge in $/1,000 gallons metered water delivery for cumulative delivery to all interconnects in excess of the quantity identified a 'Available from Pool' in the Redistribution Pool for the current fiscal year

Revenue received from these water sales will, at the discretion of the Authority Board, be applied as a credit toward the obligations of the Authority Customers apportioned to each of their allocations to the 'Available from Poc in the Redistribution Pool for the current fiscal year. Water rate for emergency use unless Interlocal Agreement provides alternative water rate

REDISTRIBUTION POOL
10/01/2023 to 09/30/2024

Redistribution Pool Water Quantities

	(1) Water Allocation [MGD]	(2) New Water Supply [MGD]	Total Contracted Allocation [MGD]	(3) Available for Pool [MGD]	Requested from Pool [MGD]	(4) Budget Allocation [MGD]
Charlotte County	16.100	0.000	16.100	1.500	(0.016)	16.100
DeSoto County	0.675	0.000	0.675	0.000	0.048	0.723
Sarasota County	15.060	0.000	15.060	2.400	(0.026)	15.060
City of North Port	2.865	0.000	2.865	0.500	(0.005)	2.865
Total	34.700	0.000	34.700	4.400	0.000	34.748

Redistribution Pool Water Base Rate Charge Adjustment

	Annual Cost [$/Year]	Annual Unit Cost [$/MGD]
Peace River Facility REP Debt Service	6,715,700	456,850
Non-Capital Component	17,289,647	498,261
DeSoto Payment	796,000	22,939
Redistribution Pool Water Base Rate		$ 978,051

(1) Peace River/Manasota Regional Water Supply Authority Master Water Supply Contract - Exhibit B 'Water Allocations' (Peace River Facility water allocations).

(2) Peace River/Manasota Regional Water Supply Authority Master Water Supply Contract - Exhibit C 'New Water Supply Demands'.

(3) Pool water based on Customer submittals (January 2020).

(4) Total annual average water allocated for FY 2021 budget.

Redistribution Pool Base Rate Charge Adjustment by Customer

	Annual Base Rate Adjustment		Monthly Base Rate Adjustment	
	To Pool	From Pool	To Pool	From Pool
Charlotte County	0.016	(16,004)	0.001	(1,334)
DeSoto County	(0.048)	46,946	(0.004)	3,912
Sarasota County	0.026	(25,607)	0.002	(2,134)
City of North Port	0.005	(5,335)	0.000	(445)
Total	($0)	$0	$0	$0

TAB D
Historical Expense Comparison

ADMINISTRATIVE
EXPENDITURES

	Actual Expended FY 2018	Actual Expended FY 2019	Actual Expended FY 2020	Actual Expended FY 2021	Actual Expended FY 2022	Budget FY 2023	Requested FY 2024	FY 2024 Budget Inc/(Dec)	
GENERAL OPERATIONS & MAINTENANCE									
Insurances									% change
Property/Liability/Workmen's Compensation									
Public Officials Liability	7,171	7,474	7,799	7,996	7,991	8,500	8,500	0	0.0%
Auto									
Subtotal	7,171	7,474	7,799	7,996	7,991	8,500	8,500	0	0.0%
Personnel Services									
Administrative	320,822	338,878	201,505	293,725	566,552	490,225	540,344	50,119	10.2%
Operators									
Subtotal	320,822	338,878	201,505	293,725	566,552	490,225	540,344	50,119	10.2%
Benefits Group									
FICA Taxes	21,498	22,081	11,975	17,490	35,009	37,502	41,336	3,834	10.2%
Fla. Retirement System	54,848	61,682	30,470	44,783	99,199	112,329	118,197	5,868	5.2%
Health Insurance	82,841	86,605	48,277	50,464	122,063	149,573	149,573	(0)	0.0%
Subtotal	159,187	170,368	90,721	112,737	256,271	299,404	309,106	9,702	3.2%
Utilities Group									
Electric Power	6,340	9,589	8,590	9,783	19,937	15,840	19,008	3,168	20.0%
Diesel Fuel			0	0	0	0	0	0	
Vehicle Fuel	3,415	3,679	10,917	3,692	9,791	12,000	12,000	0	0.0%
Telephone	397	807	2,118	3,296	5,435	6,000	6,000	0	0.0%
Subtotal	10,151	14,075	21,625	16,770	35,164	33,840	37,008	3,168	9.4%
Operating Supplies									
General Operations									
Laboratory									
Subtotal	0	0	0	0	0		0	0	
Water Treatment Chemicals									
Aluminum Sulfate									
Sodium Hydroxide									
Carbon									
Aqua Ammonia									
Coagulant Aid [water treatment]									
Copper Sulfate/Potassium Permanganate									
Sodium Hypochlorite									
Subtotal	0	0	0	0	0		0	0	

Repairs & Maintenance									
Water Treatment Facilities									
Water Resource									
Land Management									
Regional Transmission System									
Vehicle Fleet Maintenance	35	176	0	70	107	2,000	1,000	(1,000)	-50.0%
Subtotal	35	176	0	70	107	2,000	1,000	(1,000)	-50.0%
Machinery & Equipment									
Machinery & Equipment									
Contract Services									
Engineering Services - General									
~~Engineering Services - System Water Quality Master Plan~~									
Contract Services - Other									
Contract Services	12,036	18,659	4,635	6,084	17,776	6,000	6,000	0	0.0%
Legal Services	29,591	27,073	15,187	15,620	28,865	25,000	25,000	0	0.0%
Accounting Services								0	
Annual Audit	3,144	2,600	3,068	2,805	3,528	4,000	4,000	0	0.0%
Hydrogeologic Services								0	
Outside Lab Services - Drinking Water/ASR/EPA								0	
Rate Consulting Services								0	
Environmental Services								0	
Watershed Programs/Monitoring//Protection [HBMP, MFL, Stewardship]								0	
Charlotte Harbor NEP								0	
Information/Technology Services	5,431	3,147	10,917	10,548	36,941	20,000	38,000	18,000	90.0%
Equipment Rental	1,427	1,147	4,663	4,602	12,309	5,000	7,000	2,000	40.0%
Water Treatment Residual Handling								0	
Legislative Monitoring Services								0	
Uniforms								0	
Reservoir Permit Monitoring								0	
Subtotal	51,627	52,626	38,470	39,659	99,419	60,000	80,000	20,000	33.3%

General Administration									
Bank Service Charges									
Training	0		60	59	0	2,000	2,000	0	0.0%
Mileage/Travel Reimbursement	10,877	13,435	2,147	1,424	2,921	15,000	15,000	0	0.0%
Professional Development/Cont. Educat	3,378	6,708	13,864	8,945	3,719	15,000	15,000	0	0.0%
Public Outreach/Education Programs/W	41,576	49,803	30,589	31,266	27,029	55,000	55,000	0	0.0%
Misc. Fees [permits, registrations, licenses, certificati		(3,070)	9,070	1,490	1,504	14,500	14,500	0	0.0%
~~Office Rental~~	~~73,956~~	~~25,996~~						0	
Office Maintenance/Improvements	0				0	5,000	5,000	0	0.0%
Administrative Office Common Area Maintenance			25,228	28,240	38,972	38,500	40,000	1,500	3.9%
Advertising			181	0	0	3,500	1,000	(2,500)	-71.4%
Office Supplies	4,274	4,006	9,643	13,890	22,264	15,000	23,000	8,000	53.3%
Postage			254	160	400	1,000	1,000	0	0.0%
Books, Dues, Subs & Memberships	3,981	6,838	6,717	6,823	7,588	8,000	8,000	0	0.0%
~~Office Equipment/Renovations~~								0	
Software				173	415	4,000	0	(4,000)	-100.0%
								0	
General Operations	954	30,429						0	
Subtotal	138,996	134,146	97,753	92,471	104,811	176,500	179,500	3,000	1.7%
Total - Operations & Maintenance	**687,990**	**717,743**	**457,873**	**563,428**	**1,070,314**	**1,070,469**	**1,155,458**	**84,989**	7.9%

NON-OPERATION & MAINTENANCE									
Annual Debt Service									
~~2005A Bond Series~~									
~~2005B Bond Series~~									
2010A Bond Series									
2010B Bond Series									
2014 Bonds Series									
2015 Bond Series									
2020 Bond Series									
2019 Bank Note		207,525	243,374	247,322	245,934	244,378	247,654	3,276	1.3%
2019 Line of Credit									
Subtotal		207,525	243,374	247,322	245,934	244,378	247,654	3,276	1.3%
County Payments									
Capital Component									
DeSoto Payment									
North Port Payment to Charlotte									
Subtotal									
Other Rate Related Expenditures									
Contribution to Accumulating R&R Reserve									
Transfer to CIP									
Contingencies									
Water Purchase									
Debt Service Coverage Fund									
Contribution to Utility Reserve Fund									
Administrative Costs					(624,429)	(787,708)	(841,867)	(54,159)	6.9%
Subtotal			0	0	(624,429)	(787,708)	(841,867)	(54,159)	6.9%
Total Rate Related Expenditures	**687,990**	**925,269**	**701,246**	**810,750**	**691,819**	**527,139**	**561,245**	**34,106**	6.5%

NON-RATE RELATED EXPENDITURES									
Projects									
CIP Projects									
Renewal & Replacement Projects									
Management & Planning Projects									
Subtotal									
Fund Disbursements									
Charlotte County									
DeSoto County									
Sarasota County									
North Port									
Subtotal									
Total Non-Rate Related Expenditures									
TOTAL EXPENDITURES	**687,990**	**925,269**	**701,246**	**810,750**	**691,819**	**527,139**	**561,245**	34,106	6.5%

FACILITIES
EXPENDITURES

		Actual Expended FY 2018	Actual Expended FY 2019	Actual Expended FY 2020	Actual Expended FY 2021	Actual Expended FY 2022	Budget FY 2023	Requested FY 2024	FY 2024 Budget Inc/(Dec)	% change
	GENERAL OPERATIONS & MAINTENANCE									
	Insurances									
533.452	Property/Liability/Worker's Compensation	366,891	389,294	457,117	494,405	580,069	600,000	1,000,000	400,000	66.7%
533.452	Public Officials Liability								0	
533.453	Auto	28,782	26,777	28,807	29,699	37,908	35,000	40,000	5,000	14.3%
	Subtotal	395,673	416,071	485,924	524,104	617,977	635,000	1,040,000	405,000	63.8%
	Personnel Services									
533.122	Administrative	268,620	324,050	602,887	681,009	219,396	391,300	416,724	25,424	6.5%
533.133	Operations & Maintenance	2,375,158	2,538,890	2,758,214	2,835,051	3,077,258	3,767,043	4,091,900	324,857	8.6%
	Subtotal	2,643,778	2,862,940	3,361,102	3,516,060	3,296,655	4,158,343	4,508,624	350,281	8.4%
	Benefits Group									
533.212	FICA Taxes	184,818	207,070	241,930	255,884	239,012	311,887	339,800	27,913	8.9%
533.222	Fla. Retirement System	228,321	255,508	347,167	422,962	423,215	622,787	776,560	153,773	24.7%
533.232	Health Insurance	805,792	896,848	1,017,892	1,066,407	1,014,267	1,462,411	1,568,236	105,825	7.2%
	Subtotal	1,218,931	1,359,426	1,606,989	1,745,253	1,676,494	2,397,084	2,684,595	287,511	12.0%
	Utilities Group									
533.432	Electric Power	1,519,889	1,504,251	1,475,775	1,743,485	2,053,319	2,597,793	3,242,882	645,089	24.8%
533.433	Diesel Fuel	3,167	9,264	5,590	9,506	46,435	12,000	20,000	8,000	66.7%
533.522	Vehicle Fuel	26,062	27,915	17,382	34,517	46,159	43,836	50,000	6,164	14.1%
533.412	Telephone	45,815	47,615	58,142	67,870	69,878	70,000	75,000	5,000	7.1%
	Subtotal	1,594,933	1,589,045	1,556,888	1,855,379	2,215,790	2,723,629	3,387,882	664,253	24.4%
	Operating Supplies									
533.523	General Operations	35,059	21,670	25,710	57,387	37,938	60,000	50,000	(10,000)	-16.7%
533.524	Laboratory Supplies	45,615	65,452	66,562	66,887	66,539	75,000	75,000	0	0.0%
	Subtotal	80,674	87,122	92,272	124,274	104,477	135,000	125,000	(10,000)	-7.4%
	Water Treatment Chemicals									
533.526	Aluminum Sulfate	1,174,807	1,310,704	1,621,248	1,636,968	2,045,361	2,913,803	2,913,803	0	0.0%
533.527	Sodium Hydroxide	838,436	944,178	933,019	736,526	825,554	1,878,142	2,159,864	281,721	15.0%
533.528	Carbon	1,231,223	1,444,104	1,362,176	1,305,823	2,105,502	2,768,344	2,768,344	0	0.0%
533.529	Aqua Ammonia	45,594	45,334	48,996	51,642	82,115	119,809	119,809	0	0.0%
533.530 & 533.534	Coagulant Aid	77,575	62,087	93,876	106,870	120,482	149,618	149,618	0	0.0%
533.531	Copper Sulfate/Potassium Permanganate	11,560	53,419	57,800	72,098	114,164	102,379	122,854	20,476	20.0%
533.532	Sodium Hypochlorite	316,541	317,487	356,877	361,005	504,908	711,180	853,416	142,236	20.0%
	Subtotal	3,695,736	4,177,312	4,473,991	4,270,932	5,798,086	8,643,275	9,087,708	444,433	5.1%

	Repairs & Maintenance									
533.462	Water Treatment Facilities	711,693	704,461	936,018	714,646	1,007,429	975,000	1,100,000	125,000	12.8%
533.463	Water Resources	322,591	293,067	662,621	883,561	854,937	630,000	600,000	(30,000)	-4.8%
533.461	Land Management	426,647	535,276	421,657	292,522	446,216	430,000	450,000	20,000	4.7%
533.464	Regional Transmission System	101,533	118,554	19,299	78,722	210,420	140,000	140,000	0	0.0%
New	ASR							50,000	50,000	
533.465	Vehicle Fleet Maintenance	27,691	24,805	19,991	30,845	30,599	40,000	35,000	(5,000)	-12.5%
	Subtotal	1,590,155	1,676,164	2,059,587	2,000,297	2,549,600	2,215,000	2,375,000	160,000	7.2%
	Machinery & Equipment									
533.642	Machinery & Equipment	200,601	152,465	351,000	236,467	142,018	200,000	200,000	0	0.0%
	Contract Services									
533.112	Engineering Services - General	243,285	139,828	134,870	173,345	584,933	225,000	225,000	0	0.0%
533.112.1	~~Engineering Services - System Water Quality M~~	~~0~~	~~94,725~~	63,315	0				0	
533.346	Contract Services - Other	15,000	25,754	18,056	32,261	32,943	55,000	55,000	0	0.0%
533.320	Contract Labor	14,419	22,560	0		0	0	25,000	25,000	
533.321	Legal Services	531,917	422,730	153,556	169,599	287,326	250,000	275,000	25,000	10.0%
533.322	Accounting Services	0				0	0	0	0	
533.323	Annual Audit	28,294	23,400	22,495	25,245	25,872	30,000	30,000	0	0.0%
533.341	Hydrogeologic Services	175,217	120,051	163,924	274,924	153,383	175,000	175,000	0	0.0%
533.342	Outside Lab Services - Drinking Water/ASR/EP/	118,975	99,532	85,243	55,874	36,033	100,000	75,000	(25,000)	-25.0%
533.346.2	Rate Consulting Services	20,926	64,076	26,159	63,186	38,802	65,000	65,000	0	0.0%
533.351	Environmental Services	47,323	72,842	51,745	144,010	102,503	100,000	150,000	50,000	50.0%
533.352	Watershed Programs/Monitoring//Protection	504,181	397,416	355,977	393,822	512,976	500,000	400,000	(100,000)	-20.0%
533.355	Charlotte Harbor NEP	3,500	3,500	3,500	3,500	3,500	3,500	3,500	0	0.0%
533.413	Information/Technology Services	85,085	49,515	51,880	50,190	63,835	60,000	65,000	5,000	8.3%
533.445	Equipment Rental	37,724	41,618	41,196	50,217	31,546	50,000	50,000	0	0.0%
533.466	Water Treatment Residual Handling	240,005	280,843	300,725	261,960	198,415	350,000	350,000	0	0.0%
533.435	Legislative Monitoring Services	48,925	52,525	54,925	22,925	41,240	45,000	45,000	0	0.0%
533.502	Uniforms	10,353	14,620	9,701	11,316	12,259	18,000	18,000	0	0.0%
533.346.4	Reservoir Permit Monitoring	182,352	213,338	204,098	215,392	272,719	260,000	260,000	0	0.0%
	Subtotal	2,307,483	2,138,873	1,741,364	1,947,765	2,398,283	2,286,500	2,266,500	(20,000)	-0.9%

	General Administration									
533.324	Bank Service Charges	~~0~~	~~0~~	~~0~~		~~0~~	~~0~~	~~0~~	0	
533.403	Training	1,666	1,400	3,984	2,578	15,255	3,000	20,000	17,000	566.7%
533.402	Mileage/Travel Reimbursement	24,970	32,707	19,404	20,660	31,142	35,000	35,000	0	0.0%
533.404	Professional Development/Cont. Education	15,904	20,238	31,486	30,682	19,598	30,000	25,000	(5,000)	-16.7%
533.405	Public Outreach/Education Programs/Website	37,138	68,952	49,334	41,838	21,349	65,000	50,000	(15,000)	-23.1%
533.434/324	Misc. Fees [permits, registrations, licenses, cer	15,892	12,354	12,133	20,255	22,112	35,000	35,000	0	0.0%
533.443	Office Rental	73,956	25,996		0	0	0	0	0	
533.444	Office Maintenance/Improvements	0	1,755		0	0	5,000	0	(5,000)	-100.0%
	Administrative Office Common Area Maintena	0	0		0	0		0	0	
533.451	Advertising	5,041	3,803	5,231	8,198	6,351	8,000	8,000	0	0.0%
533.512	Office Supplies	20,981	33,081	30,021	29,961	37,836	35,000	40,000	5,000	14.3%
533.516/422	Postage	4,240	5,799	4,446	3,211	2,040	6,000	4,000	(2,000)	-33.3%
533.542	Books, Dues, Subs & Memberships	15,286	18,898	21,339	23,959	18,261	25,000	25,000	0	0.0%
533.643	Furniture & Fixtures	9,824	10,145	7,278	4,322	4,326	0	0	0	
533.644	Software	22,060	22,409	53,587	55,780	81,614	60,000	95,000	35,000	58.3%
533.650			~~0~~	~~0~~					0	
	General Operations								0	
	Subtotal	246,960	257,538	238,242	241,444	259,884	307,000	337,000	30,000	9.8%
	Total - Operations & Maintenance	**13,974,925**	**14,716,955**	**15,967,360**	**16,461,974**	**19,059,263**	**23,700,832**	**26,012,310**	**2,311,478**	9.8%

NON-OPERATION & MAINTENANCE									
Annual Debt Service									
~~2005A Bond Series~~								0	
~~2005B Bond Series~~								0	
2010A Bond Series			591,300	34,493	0	0	0	0	
2010B Bond Series	2,483,411	2,483,411	1,892,111	110,373	0	0	0	0	
2014 Bond Series	4,536,258	4,538,191	4,539,362	2,827,776	2,795,750	2,795,750	2,795,750	0	0.0%
2015 Bonds Series	2,529,500	2,525,500	2,523,000	2,526,750	2,531,250	2,526,250	2,527,000	750	0.0%
2020 Bond Series				3,264,884	4,805,450	4,807,850	4,800,650	(7,200)	-0.1%
2019 Bank Note								0	
2019 Line of Credit			68,023	1,016,128	56,420			0	
Subtotal	9,549,169	9,547,102	9,613,797	9,780,403	10,188,870	10,129,850	10,123,400	(6,450)	-0.1%
County Payments									
Capital Component	1,971,557	1,971,557	1,971,557	1,971,557	0	0	0	0	
DeSoto Payment	796,000	796,000	796,000	796,000	796,000	796,000	796,000	0	0.0%
North Port Payment to Charlotte	4,781	4,781	4,781	4,781	0	0	0	0	
Subtotal	2,772,338	2,772,338	2,772,338	2,772,338	796,000	796,000	796,000	0	0.0%
Other Rate Related Expenditures									
Contribution to Accumulating R&R Reserve	2,000,000	2,000,000	2,200,000	3,000,000	4,000,000	4,000,000	4,250,000	250,000	6.3%
				0	1,100,000	937,000	0	(937,000)	-100.0%
Transfer to System-Wide Benefit CIP	500,000	500,000	1,000,000	1,000,000	1,000,000	2,195,594	1,894,860	(300,734)	-13.7%
Contingencies	0	0		0	0	500,000	500,000	0	0.0%
Water Purchase	0	0	0	0				0	
Debt Service Coverage Fund	1,345,291	1,345,320	1,345,125	1,344,995	1,344,994	1,519,478	1,518,510	(968)	-0.1%
Contribution to Utility Reserve Fund			250,000	0	105,000	391,059	1,406,061	1,015,001	259.6%
Disaster Recovery Reserve				150,000	350,000	0	0	0	
Internal Administrative Costs			0	0	624,429	787,708	841,867	54,159	6.9%
Subtotal	3,845,291	3,845,320	4,795,125	5,494,995	8,524,423	10,330,839	10,411,298	80,459	0.8%
Total Rate Related Expenditures	**30,141,723**	**30,881,715**	**33,148,620**	**34,509,711**	**38,568,556**	**44,957,521**	**47,343,008**	**2,385,487**	5.3%

NON-RATE RELATED EXPENDITURES									
Projects									
CIP Projects	1,467,329	5,374,380	20,332,900	2,609,241	3,790,196	26,850,000	87,373,849	60,523,849	225.4%
Renewal & Replacement Projects	2,334,459	2,068,357	1,974,418	3,232,113	3,777,412	4,000,000	4,250,000	250,000	6.3%
Management & Planning Projects	1,812	307,294	177,368	1,674,573	1,054,402	475,000	475,000	0	0.0%
Subtotal	3,803,600	7,750,031	22,484,686	7,515,928	8,622,009	31,325,000	92,098,849	60,773,849	194.0%
Fund Disbursements									
Charlotte County	268,771	268,843	268,776	268,734	268,685	336,764	336,727	(37)	0.0%
DeSoto County	33,766	33,813	33,773	33,747	33,782	35,729	35,681	(48)	-0.1%
Sarasota County	889,308	889,570	889,334	889,187	889,142	1,000,049	999,771	(278)	0.0%
North Port	153,446	153,408	153,438	153,457	153,385	147,326	147,298	(28)	0.0%
Subtotal	1,345,291	1,345,634	1,345,321	1,345,125	1,344,994	1,519,868	1,519,477	(391)	0.0%
Fund Disbursements (2020 Bond Series Savings Rebate FY2021)									
Charlotte County					63,157			0	
DeSoto County					3,438			0	
Sarasota County					0				
North Port					450,874			0	
Subtotal	0	0	0	0	517,469	0	0	0	
Total Non-Rate Related Expenditures	**5,148,891**	**9,095,665**	**23,830,007**	**8,861,053**	**10,484,472**	**32,844,868**	**93,618,326**	**60,773,458**	185.0%
TOTAL EXPENDITURES	**35,290,613**	**39,977,381**	**56,978,627**	**43,370,763**	**49,053,028**	**77,802,389**	**140,961,334**	**63,158,945**	81.2%

TOTAL ENTERPRISE FUND

		Actual Expended FY 2018	Actual Expended FY 2019	Actual Expended FY 2020	Actual Expended FY 2021	Actual Expended FY 2022	Budget FY 2023	Requested FY 2024	FY 2024 Budget Inc/(Dec)	
	GENERAL OPERATIONS & MAINTENANCE									% change
	Insurances									
533.452	Property/Liability/Workmen's Compensation	366,891	389,294	457,117	494,405	580,069	600,000	1,000,000	400,000	66.7%
533.452	Public Officials Liability	7,171	7,474	7,799	7,996	7,991	8,500	8,500	0	0.0%
533.453	Auto	28,782	26,777	28,807	29,699	37,908	35,000	40,000	5,000	14.3%
	Subtotal	402,844	423,545	493,723	532,100	625,968	643,500	1,048,500	405,000	62.9%
	Personnel Services									
533.122	Administrative	589,442	662,928	804,392	974,733	785,948	881,525	957,068	75,543	8.6%
533.133	Operations & Maintenance	2,375,158	2,538,890	2,758,214	2,835,051	3,077,258	3,767,043	4,091,900	324,857	8.6%
	Subtotal	2,964,600	3,201,818	3,562,607	3,809,785	3,863,206	4,648,568	5,048,968	400,400	8.6%
	Benefits Group									
533.212	FICA Taxes	206,317	229,151	253,904	273,374	274,021	349,389	381,136	31,748	9.1%
533.222	Fla. Retirement System	283,170	317,190	377,637	467,745	522,415	735,116	894,757	159,641	21.7%
533.232	Health Insurance	888,632	983,453	1,066,169	1,116,871	1,136,329	1,611,984	1,717,808	105,825	6.6%
	Subtotal	1,378,119	1,529,794	1,697,710	1,857,990	1,932,765	2,696,488	2,993,701	297,213	11.0%
	Utilities Group									
533.432	Electric Power	1,526,228	1,513,841	1,484,365	1,753,268	2,073,256	2,613,633	3,261,890	648,257	24.8%
533.433	Diesel Fuel	3,167	9,264	5,590	9,506	46,435	12,000	20,000	8,000	66.7%
533.522	Vehicle Fuel	29,477	31,593	28,299	38,208	55,950	55,836	62,000	6,164	11.0%
533.412	Telephone	46,212	48,422	60,259	71,166	75,313	76,000	81,000	5,000	6.6%
	Subtotal	1,605,085	1,603,120	1,578,513	1,872,149	2,250,954	2,757,469	3,424,890	667,421	24.2%
	Operating Supplies									
533.523	General Operations	35,059	21,670	25,710	57,387	37,938	60,000	50,000	(10,000)	-16.7%
533.524	Laboratory	45,615	65,452	66,562	66,887	66,539	75,000	75,000	0	0.0%
	Subtotal	80,674	87,122	92,272	124,274	104,477	135,000	125,000	(10,000)	-7.4%
	Water Treatment Chemicals									
533.526	Aluminum Sulfate	1,174,807	1,310,704	1,621,248	1,636,968	2,045,361	2,913,803	2,913,803	0	0.0%
533.527	Sodium Hydroxide	838,436	944,178	933,019	736,526	825,554	1,878,142	2,159,864	281,721	15.0%
533.528	Carbon	1,231,223	1,444,104	1,362,176	1,305,823	2,105,502	2,768,344	2,768,344	0	0.0%
533.529	Aqua Ammonia	45,594	45,334	48,996	51,642	82,115	119,809	119,809	0	0.0%
533.530	Coagulant Aid	77,575	62,087	93,876	106,870	120,482	149,618	149,618	0	0.0%
533.531	Copper Sulfate/Potassium Permanganate	11,560	53,419	57,800	72,098	114,164	102,379	122,854	20,476	20.0%
533.532	Sodium Hypochlorite	316,541	317,487	356,877	361,005	504,908	711,180	853,416	142,236	20.0%
	Subtotal	3,695,736	4,177,312	4,473,991	4,270,932	5,798,086	8,643,275	9,087,708	444,433	5.1%

	Repairs & Maintenance									
533.462	Water Treatment Facilities	711,693	704,461	936,018	714,646	1,007,429	975,000	1,100,000	125,000	12.8%
533.463	Water Resources	322,591	293,067	662,621	883,561	854,937	630,000	600,000	(30,000)	-4.8%
	Land Management	426,647	535,276	421,657	292,522	446,216	430,000	450,000	20,000	4.7%
533.464	Regional Transmission System	101,533	118,554	19,299	78,722	210,420	140,000	140,000	0	0.0%
	ASR							50,000	50,000	
533.465	Vehicle Fleet Maintenance	27,727	24,981	19,991	30,915	30,706	42,000	36,000	(6,000)	-14.3%
	Subtotal	1,590,190	1,676,340	2,059,587	2,000,367	2,549,707	2,217,000	2,376,000	159,000	7.2%
	Machinery & Equipment									
533.642	Machinery & Equipment	200,601	152,465	351,000	236,467	142,018	200,000	200,000	0	0.0%
	Contract Services									
533.112	Engineering Services - General	243,285	139,828	134,870	173,345	584,933	225,000	225,000	0	0.0%
533.112.1	Engineering Services - System Water Quality Ma	0	94,725	63,315	0	0	0	0	0	#DIV/0!
	Contract Svcs - Other	27,036	44,413	22,691	38,345	50,718	61,000	61,000	0	0.0%
533.320	Contract Labor	14,419	22,560	0	0	0	0	25,000	25,000	#DIV/0!
533.321	Legal Services	561,508	449,803	168,743	185,219	316,191	275,000	300,000	25,000	9.1%
533.322	Accounting Services	0	0	0	0	0	0	0	0	#DIV/0!
533.323	Annual Audit	31,438	26,000	25,563	28,050	29,400	34,000	34,000	0	0.0%
533.341	Hydrogeologic Services	175,217	120,051	163,924	274,924	153,383	175,000	175,000	0	0.0%
533.342	Outside Lab Services - Drinking Water/ASR/EPA	118,975	99,532	85,243	55,874	36,033	100,000	75,000	(25,000)	-25.0%
533.346.2	Rate Consulting Services	20,926	64,076	26,159	63,186	38,802	65,000	65,000	0	0.0%
533.351	Environmental Services	47,323	72,842	51,745	144,010	102,503	100,000	150,000	50,000	50.0%
533.352	Watershed Programs/Monitoring//Protection [H	504,181	397,416	355,977	393,822	512,976	500,000	400,000	(100,000)	-20.0%
533.355	Charlotte Harbor NEP	3,500	3,500	3,500	3,500	3,500	3,500	3,500	0	0.0%
533.413	Information/Technology Services	90,516	52,662	62,797	60,738	100,776	80,000	103,000	23,000	28.8%
533.445	Equipment Rental	39,151	42,765	45,859	54,819	43,855	55,000	57,000	2,000	3.6%
533.466	Water Treatment Residual Handling	240,005	280,843	300,725	261,960	198,415	350,000	350,000	0	0.0%
533.435	Legislative Monitoring Services	48,925	52,525	54,925	22,925	41,240	45,000	45,000	0	0.0%
533.502	Uniforms	10,353	14,620	9,701	11,316	12,259	18,000	18,000	0	0.0%
533.346.4	Reservoir Permit Monitoring	182,352	213,338	204,098	215,392	272,719	260,000	260,000	0	0.0%
	Subtotal	2,359,110	2,191,499	1,779,834	1,987,425	2,497,701	2,346,500	2,346,500	0	0.0%

	General Administration								
533.324	Bank Service Charges	0	0	0	0	0	0	0	0	
533.403	Training	1,666	1,400	4,044	2,637	15,255	5,000	22,000	17,000	340.0%
533.402	Mileage/Travel Reimbursement	35,847	46,142	21,551	22,084	34,063	50,000	50,000	0	0.0%
533.404	Professional Development/Cont. Education	19,283	26,947	45,350	39,627	23,317	45,000	40,000	(5,000)	-11.1%
533.405	Public Outreach/Education Programs/Website	78,714	118,756	79,924	73,105	48,378	120,000	105,000	(15,000)	-12.5%
533.434	Misc. Fees [permits, registrations, licenses, certi	15,892	9,284	21,203	21,745	23,616	49,500	49,500	0	0.0%
533.443	Office Rental	147,912	51,993	0	0	0	0	0	0	#DIV/0!
533.444	Office Maintenance/Improvements	0	1,755	0	0	0	10,000	5,000	(5,000)	-50.0%
	Administrative Office Common Area Maintenanc	0	0	25,228	28,240	38,972	38,500	40,000	1,500	3.9%
533.451	Advertising	5,041	3,803	5,412	8,198	6,351	11,500	9,000	(2,500)	-21.7%
533.512	Office Supplies	25,256	37,086	39,664	43,851	60,100	50,000	63,000	13,000	26.0%
533.516	Postage	4,240	5,799	4,700	3,371	2,440	7,000	5,000	(2,000)	-28.6%
533.542	Books, Dues, Subs & Memberships	19,267	25,736	28,055	30,782	25,848	33,000	33,000	0	0.0%
533.643	~~Office Equipment/Renovations~~	9,824	10,145	7,278	4,322	4,326	0	0	0	#DIV/0!
533.644	Software	22,060	22,409	53,587	55,953	82,029	64,000	95,000	31,000	48.4%
533.650	~~Staffing /Policy Review~~	0	0	0	0	0	0	0	0	#DIV/0!
	General Operations	954	30,429	0	0	0	0	0	0	#DIV/0!
	Subtotal	385,956	391,684	335,995	333,915	364,695	483,500	516,500	33,000	6.8%
	Total - Operations & Maintenance	**14,662,915**	**15,434,698**	**16,425,233**	**17,025,402**	**20,129,577**	**24,771,301**	**27,167,768**	**2,396,467**	9.7%

NON-OPERATION & MAINTENANCE									
Annual Debt Service									
2014 Bond Series		4,536,258	4,538,191	4,539,362	2,827,776	2,795,750	2,795,750	2,795,750	0
2015 Bonds Series		2,529,500	2,525,500	2,523,000	2,526,750	2,531,250	2,526,250	2,527,000	750
2020 Bond Series							4,807,850	4,800,650	(7,200)
2019 Bank Note				243,374	247,322	245,934	244,378	247,654	3,276
2019 Line of Credit				68,023	1,016,128	56,420	0	0	0
	Subtotal	9,549,169	9,754,628	9,857,170	10,027,725	10,434,804	10,374,228	10,371,054	(3,174)
County Payments									
Capital Component		1,971,557	1,971,557	1,971,557	1,971,557	0	0	0	0
DeSoto Payment		796,000	796,000	796,000	796,000	796,000	796,000	796,000	0
North Port Payment to Charlotte		4,781	4,781	4,781	4,781	0	0	0	0
	Subtotal	2,772,338	2,772,338	2,772,338	2,772,338	796,000	796,000	796,000	0
Other Rate Related Expenditures									
Contribution to Accumulating R&R Reserve		2,000,000	2,000,000	2,200,000	3,000,000	4,000,000	4,000,000	4,250,000	250,000
Transfer to System-Wide Benefit CIP					1,000,000	1,000,000	2,195,594	1,894,860	(300,734)
Contingencies		0	0	0	0	0	500,000	500,000	0
Water Purchase		0	0	0	0	0	0	0	0
Debt Service Coverage Fund		1,345,291	1,345,320	1,345,125	1,344,995	1,344,994	1,519,478	1,518,510	(968)
Contribution to Utility Reserve Fund				250,000	0	105,000	391,059	1,406,061	1,015,001
Disaster Recovery Reserve					150,000	350,000	0	0	0
Internal Administrative Costs				0	0	0	0	0	(0)
	Subtotal	3,845,291	3,845,320	4,795,125	5,494,995	6,799,994	8,606,131	9,569,431	963,300
Total Rate Related Expenditures		**30,829,713**	**31,806,984**	**33,849,866**	**35,320,460**	**39,260,375**	**45,484,660**	**47,904,253**	**3,356,593**

7.4%

NON-RATE RELATED EXPENDITURES									
Projects									
CIP Projects		1,467,329	5,374,380	20,332,900	2,609,241	3,790,196	26,850,000	87,373,849	60,523,849
Renewal & Replacement Projects		2,334,459	2,068,357	1,974,418	3,232,113	3,777,412	4,000,000	4,250,000	250,000
Management & Planning Projects		1,812	307,294	177,368	1,674,573	1,054,402	475,000	475,000	0
	Subtotal	3,803,600	7,750,031	22,484,686	7,515,928	8,622,009	31,325,000	92,098,849	60,773,849
Fund Disbursements									
Charlotte County		268,771	268,843	268,776	268,734	268,685	336,764	336,727	(37)
DeSoto County		33,766	33,813	33,773	33,747	33,782	35,729	35,681	(48)
Sarasota County		889,308	889,570	889,334	889,187	889,142	1,000,049	999,771	(278)
North Port		153,446	153,408	153,438	153,457	153,385	147,326	147,298	(28)
	Subtotal	1,345,291	1,345,634	1,345,321	1,345,125	1,344,994	1,519,868	1,519,477	(391)
Fund Disbursements (2020 Bond Series Savings Rebate FY2021)									
Charlotte County						63,157			0
DeSoto County						3,438			0
Sarasota County						0			0
North Port						450,874			0
	Subtotal				0	517,469		0	0
Total Non-Rate Related Expenditures		5,148,891	9,095,665	23,830,007	8,861,053	10,484,472	32,844,868	93,618,326	60,773,458
TOTAL EXPENDITURES		**35,978,604**	**40,902,650**	**57,679,873**	**44,181,513**	**49,744,847**	**78,329,528**	**141,522,579**	**63,193,051**

81%

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

TENTATIVE BUDGET
ITEM 2

Resolution 2023-05 'Resolution Setting Forth Preliminary Schedules of Rates, Fees and Charges for FY 2024'

Presenter - Mike Coates, Executive Director

Recommended Action - **Motion** to approve Resolution 2023-05 'Resolution Setting Forth Preliminary Schedules of Rates, Fees and Charges for FY 2024'.

Resolution 2023-05 formalizes the Board's adoption of the Tentative Budget for FY 2024 and establishes its intent to set rates, fees and charges based upon the tentative budget. A public hearing is scheduled at which time the Board will adopt the final schedule of rates, fees and charges for FY 2024 during a regularly scheduled meeting on August 2, 2023.

Attachments:
Resolution 2023-05 'Resolution Setting Forth Preliminary Schedules of Rates, Fees and Charges for FY 2024'

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

Resolution 2023-05

RESOLUTION SETTING FORTH PRELIMINARY SCHEDULES OF RATES, FEES AND CHARGES FOR FY 2024

The Peace River Manasota Regional Water Supply Authority, created pursuant to Chapter 373.1962, Florida Statutes, subsequently reenacted as Section 373.713, Florida Statutes, and Interlocal agreement pursuant to Chapter 163.01, *et seq*., Florida Statutes, in lawful session and in regular order of business properly presented, finds that:

WHEREAS, the Second Amended Interlocal Agreement Creating the Peace River Manasota Regional Water Supply Authority entered into on October 5, 2005 provides that:

'The Authority shall establish a tentative budget no later than May 15, for the ensuing Contract Year. The tentative budget shall include all anticipated expenditures of the Authority for its projects and activities for the ensuing Contract Year, including Operating and Maintenance Cost, Management and Planning Costs, and Debt Service Cost. As part of the budget process, the Authority shall adopt rates, fees, and charges to generate sufficient revenue to pay all budgeted expenditures on a water user basis for Authority Water Supply Facilities. Membership fees and rates shall be established annually and adopted by resolution at the time of budget adoption.' and

WHEREAS, the Authority has entered into the Peace River Manasota Regional Water Supply Authority Master Water Supply Contract with Charlotte County, DeSoto County, Manatee County, Sarasota County, and with the City of North Port on October 5, 2005 (as amended August 5, 2015) for the purpose of supplying water produced by the Authority from the Peace River Facility and new water supply sources; and

WHEREAS, the Master Water Supply Contract provides that:

'In conjunction with the Authority's annual budget development and adoption process, the Authority shall fix a Water Rate consisting of the Base Rate Charge (adjusted as necessary for customer financing), DeSoto Payment, and Water Use Charge to be paid on a monthly basis by the Customers for water furnished by the Authority. The rates are not subject to the supervision or regulation by any other commission, board, bureau, agency or other political subdivision or agency of the county or state.' and

WHEREAS, the Authority Board of Directors adopted the Tentative Budget for FY 2024 at their regularly scheduled meeting on April 5, 2023.

NOW, THEREFORE, BE IT RESOLVED:

Section 1. The Peace River Manasota Regional Water Supply Authority does hereby set forth preliminary schedules establishing rates, fees and charges for the period beginning October 1, 2023 through September 30, 2024 attached hereto as Exhibit A.

Section 2. Conservation Charge for Exceedance.

In the event a Customer, other than an 'Exclusive Provider Customer' as defined in the Master Water Supply Contract, should receive delivery of water in excess of their respective water allocation (as adjusted by New Water Supply Demand and/or Redistribution Pool) provided in the Master Water Supply Contract for the period beginning October 1, 2023 through September 30, 2024, the exceeding Customer shall pay an additional charge, Conservation Charge for Exceedance, derived as follows unless the exceedance is the result of an emergency transfer as determined by the Authority Board, in which case no additional charge shall be placed upon the excess water usage occasioned by the emergency.

The Conservation Charge for Exceedance shall be based solely on Annual Average Day (AAD) Water Allocation set forth in Exhibit B of the Master Water Supply Contract (the Conservation Charge for Exceedance does not apply to the Peak Month Average Day and the Maximum Day Water Allocations if exceeded). Delivery of water shall be as recorded by the Authority's meters at the points of connection between the Authority transmission system and the distribution system of the customer.

Exceedance of AAD for Fiscal Year	**Conservation Rate Calculation**
1st Exceedance	No penalty. Customer liable only for the Base Rate Charge set by resolution plus Water Use Charge set by resolution for their actual metered water usage. The Authority shall assist the customer in the performance of a water audit of its water system and implementation of audit recommendations.
2nd Exceedance	Customer liable for the Base Rate Charge set by resolution plus 125% of the Redistribution Pool Water Base Rate Charge for water delivered in exceedance of Water Allocation plus Water Use Charge set by resolution for their actual metered water usage.
3rd Exceedance	Customer liable for the Base Rate Charge set by resolution plus 150% of the Redistribution Pool Water Base Rate Charge for water delivered in exceedance of Water Allocation plus Water Use Charge set by resolution for their actual metered water usage.
4th and all Subsequence Exceedances	Customer liable for the Base Rate Charge set by resolution plus 200% of the Redistribution Pool Water Base Rate Charge for water delivered in exceedance of Water Allocation and Water Use Charge set by resolution for their actual metered water usage.

The Conservation Charge for Exceedance is progressive and penalty for exceedance is applied in subsequent fiscal years as provided above. The exceedances do not need to be in consecutive years and the number of exceedances does not reset each year. The Conservation Charge for Exceedance is not applicable to an Exclusive Provider Customer.

The additional revenue received from such exceedance will, at the discretion of the Authority Board, be applied to the funding for management and planning as provided in section 17 of the MWSC for future water supply development.

Done at Bradenton, Florida this Fifth day of April 2023.

Peace River Manasota
Regional Water Supply Authority

Attest:

Mike Coates
Executive Director

Commissioner Elton Langford
Chairman

Approved as to Form:

Douglas Manson
General Counsel for Peace River Manasota
Regional Water Supply Authority

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

WATER RATE [Authority Customers]

10/01/2023 to 09/30/2024

Total Monthly Water Charge to Customers	
[Charge per Month]	Monthly Charge = Base Rate Charge + (Water Use Charge x Actual Water Delivered)
Base Rate Charge	
[Annual costs to be allocated]	Totals
Other Rate Related Expenditures	
Fixed O & M Cost Component	13,331,719
Contribution to R & R Reserve	4,250,000
Transfer to CIP (PR^3)	-
Contingencies	500,000
Transfer to Utility Reserve Fund	1,406,061
Transfer to Disaster Recovery Reserve	-
Transfer to Administrative Fund	841,867
Projected Interest Earned	(40,000)
Transfer from Rate Stabilization Reserve	(1,000,000)
Funds Brought Forward	(2,000,000)
Sub-Total Other Rate Related Expenditures	$ 17,289,647
Water Purchase	0
Total Other Rate Related Expenditures	$ 17,289,647
Debt Service Cost	
2014 Bonds	2,795,750
2015 Bonds	2,527,000
2020 Bonds	4,800,650
Total Debt Service	$ 10,123,400
Debt Service Coverage Payments	$ 1,518,510
Debt Service Contributions	$ -
County Payments	
DeSoto Payment	796,000
Total County Payments	$ 796,000
System-Wide CIP Contribution	
Transfer out to CIP	1,894,860
Total Base Rate Charge	$ 31,622,417

Exhibit A
Resolution 2023-05
April 5, 2023

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

Annual Base Rate Charge By Customer

	Total	Other Rate Related Expenditures	2014B Bonds	2015 Bonds	2020 Bonds	Debt Service Coverage Payment	DeSoto Payment	System-Wide CIP Contribution	Pool Water Redistribution
Charlotte County	11,798,279	8,021,998	734,164	600,415	908,924	336,526	369,326	842,931	(16,004)
DeSoto County	707,572	336,326	22,925	181,439	33,474	35,676	15,484	35,302	46,946
Manatee County	78,232	-	-	-	-	-	-	78,232	0
Sarasota County	16,271,576	7,503,807	1,748,742	1,745,146	3,166,559	999,067	345,469	788,395	(25,607)
City of North Port	2,766,759	1,427,517	289,919	-	691,693	147,242	65,722	150,000	(5,335)
Total	$ 31,622,417	$ 17,289,647	$ 2,795,750	$ 2,527,000	$ 4,800,650	$ 1,518,510	$ 796,000	$ 1,894,860	$ -

Monthly Base Rate Charge By Customer

Charlotte County	983,190
DeSoto County	58,964
Manatee County	6,519
Sarasota County	1,355,965
City of North Port	230,563
Total	$ 2,635,201

Water Use Charge

[Charge per 1,000 gallons]	Total
Water Use Rate Charge	$1.09

Master Water Supply Contract Water Allocation

Million Gallons Per Day [MGD]	Annual Average Daily [MGD]
Charlotte County	16.100
DeSoto County	0.675
Manatee County	0.000
Sarasota County	15.060
City of North Port	2.865
Total	34.700

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

MEMBER FEE

10/01/2023 to 09/30/2024

Contribution Amount to be Derived

	Totals
Administrative Office Authority Support	$ 561,245
Projected Interest Earned	$ -
Rental Income	$ (96,426)
Amount to be Derived	$ 464,819

Population Basis

	*Population 12/21/2022	% of Total Population
Charlotte County	196,742	17.83%
DeSoto County	32,391	2.94%
Manatee County	421,768	38.23%
Sarasota County	452,378	41.00%
Total	1,103,279	100.00%

Weighted Contribution

	Base Contribution	Pro Rated Share	
Charlotte County	$ 58,102	$ 41,444	$ 99,547
DeSoto County	$ 58,102	$ 6,823	$ 64,926
Manatee County	$ 58,102	$ 88,847	$ 146,949
Sarasota County	$ 58,102	$ 95,295	$ 153,397
Total Weighted Contribution			$ 464,819

Member Contribution Formula:

Base Contribution = 1/2 amount to be derived divided by 4

Pro rated share = 1/2 amount to be derived times % of Population

* Source: 'Florida Estimates of Population 2022' [Bureau of Economic and Business Research; University of Florida, December 21, 2022]

Peace River Manasota Regional Water Supply Authority
FY 2024 Tentative Budget

PLANNING ASSESSMENT
10/01/2023 to 09/30/2024

Planning Assessments [Annual costs to be allocated]	Total	Planning Assessment Allocation (1)		
		MWSC Modifications	Polk Regional Water Cooperative Coordinating Committee	Regional Water Supply Feasibility Planning
Charlotte County	84,704	8,916	4,458	71,330
DeSoto County	13,945	1,468	734	11,744
Manatee County	181,586	19,114	9,557	152,914
Sarasota County	159,537	16,793	8,397	134,347
City of North Port	35,228	3,708	1,854	29,665
Total	$ 475,000	$ 50,000	$ 25,000	$ 400,000

(1) Planning Assessment invoiced on October 1, 2019.
(2) Plannng Assessment Allocation Pro-Rata Population.

Population	*Population 12/21/2022	Population [Percentage]
Charlotte County	196,742	17.83%
DeSoto County	32,391	2.94%
Manatee County	421,768	38.23%
Sarasota County	370,555	33.59%
City of North Port	81,823	7.42%
Total	1,103,279	100.00%

* Source: 'Florida Estimates of Population 2022' [Bureau of Economic and Business Research; University of Florida, December 21, 2022]

INTERCONNECT WATER CHARGE [GOVERNMENT RATE]

10/01/2023 to 09/30/2024

Water Charge to Municipalities Interconnected to Regional Transmission System		
[Charge per 1,000 Gallons]		
Water Rate		
[Charge per 1,000 Gallons]		
	$3.30	Water Rate Charge in $/1,000 gallons metered water delivery for cumulative delivery to all interconnects up to quantity identified a 'Available from Pool' in the Redistribution Pool for the current fiscal year
	$6.60	Water Rate Charge in $/1,000 gallons metered water delivery for cumulative delivery to all interconnects in excess of the quantity identified a 'Available from Pool' in the Redistribution Pool for the current fiscal year

Revenue received from these water sales will, at the discretion of the Authority Board, be applied as a credit toward the obligations of the Authority Customers apportioned to each of their allocations to the 'Available from Poc in the Redistribution Pool for the current fiscal year. Water rate for emergency use unless Interlocal Agreement provides alternative water rate

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

GENERAL COUNSEL'S REPORT

Presenter - Douglas Manson, General Counsel

Recommended Action - **Status Report.** This item is presented for the Board's information and no action is required.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

EXECUTIVE DIRECTOR'S REPORT

Presenter -	Mike Coates, Executive Director
Recommended Action -	**Status Report.** This item is presented for the Board's information and no action is required.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

ROUTINE STATUS REPORTS
ITEM 1

Hydrologic Conditions Report

MEMORANDUM

Project: Hydrologic Conditions Report

Date: March 13, 2023

TO: Mike Coates, Executive Director

Developed By: Daniel Roberts, Environmental Specialist III

This memorandum summarizes rainfall, surface water conditions, and the Authority's current water storage and supply conditions for the month of February, and the preceding 13-month period.

Rainfall Conditions & Projections

Table 1 summarizes rainfall conditions for the 12-month period from March 1, 2022, through February 28, 2023. Rainfall in the Peace River Basin for the past 12-months totaled 59.85 inches, 7.55 inches above the long-term historical average of 52.30 inches. Rainfall for the month of February 2023 totaled 0.90 inches, a value 1.60 inches below the historical monthly average of 2.50 inches for February. Notably, abnormally high rainfall was received in September (18.68 inches) when the Basin received over 2.5 times the historical monthly average and around 36% of historical average annual rainfall (52.30 inches). The majority of September rainfall was received on September 27 and 28 in association with Hurricane Ian. The Authority's PRF received 15.73" within that 48-hour period which represents about 30% of historical average annual rainfall.

Table 1 (Peace River Basin Rainfall - Inches)

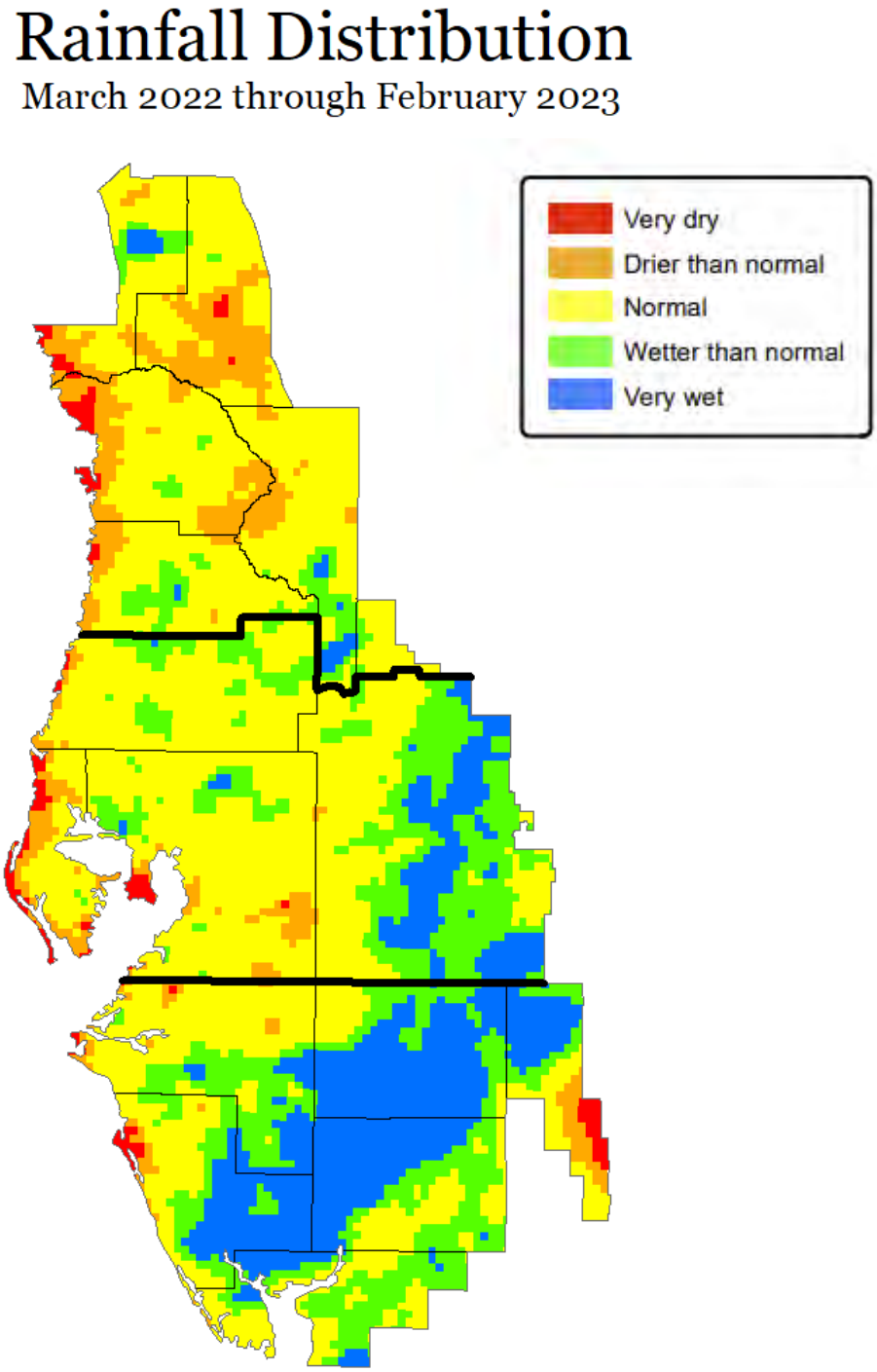
Month	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	12 Mo Total
Historical Avg Rainfall[1]	2.90	2.50	4.00	8.40	8.10	7.70	7.30	3.10	1.70	1.90	2.20	2.50	52.30
Actual Rainfall[2]	2.91	3.53	6.60	5.80	5.32	9.27	18.68	0.24	3.14	2.10	1.36	0.90	59.85
Diff. Historical vs Actual	0.01	1.03	2.60	-2.60	-2.78	1.57	11.38	-2.86	1.44	0.20	-0.84	-1.60	7.55

[1] Historical rainfall data are the long-term average of the Winter Haven, Bowling Green, and Joshua at Nocatee Rainfall Stations.
[2]Actual rainfall data are average values for the Winter Haven, Bowling Green, and Joshua at Nocatee Rainfall Stations.

Figure 1 provides region-wide rainfall conditions as reported by SWFWMD for the 12-month period ending February 2023. Data shown for the Authority's 4-county service area indicate near normal to very wet conditions for most of Charlotte, DeSoto, and Sarasota Counties, and normal to wet conditions in Manatee County. The overall inland Peace River Basin indicates mostly wet to very wet conditions from Polk to Desoto Counties over the last 12 months.

NOAA projections for the next three months (March – May 2023) are for above normal temperatures and below normal rainfall for Southwest Florida. The NOAA/ENSO (El Nino/ La Nina) extended forecast has returned to neutral conditions and is favored to continue through early Summer 2023.

Figure 1 (SWFWMD Rainfall Conditions Map)



River Flow Conditions

Figure 2 provides the locations of the three U.S. Geological Survey gauges that are used to regulate Authority withdrawals from the Peace River: 1) Peace River at Arcadia, 2) Horse Creek at Arcadia, and 3) Joshua Creek at Nocatee. Flow conditions at these gauges are discussed below:

The combined flow at the three gauges listed above **(Figure 3**) fell below the historical average in mid-January after reaching a historical record high level in the aftermath of Hurricane Ian in early October (61,430 cfs). **Figure 3** provides a hydrograph of combined flows using the standard scale used to plot this data historically. As of early March 2023, the combined flow is reaching the 130 cfs lower limit cut-off for withdrawals from the Peace River.

Figure 2 (Peace River Basin Showing Selected Gauge Locations with ★)

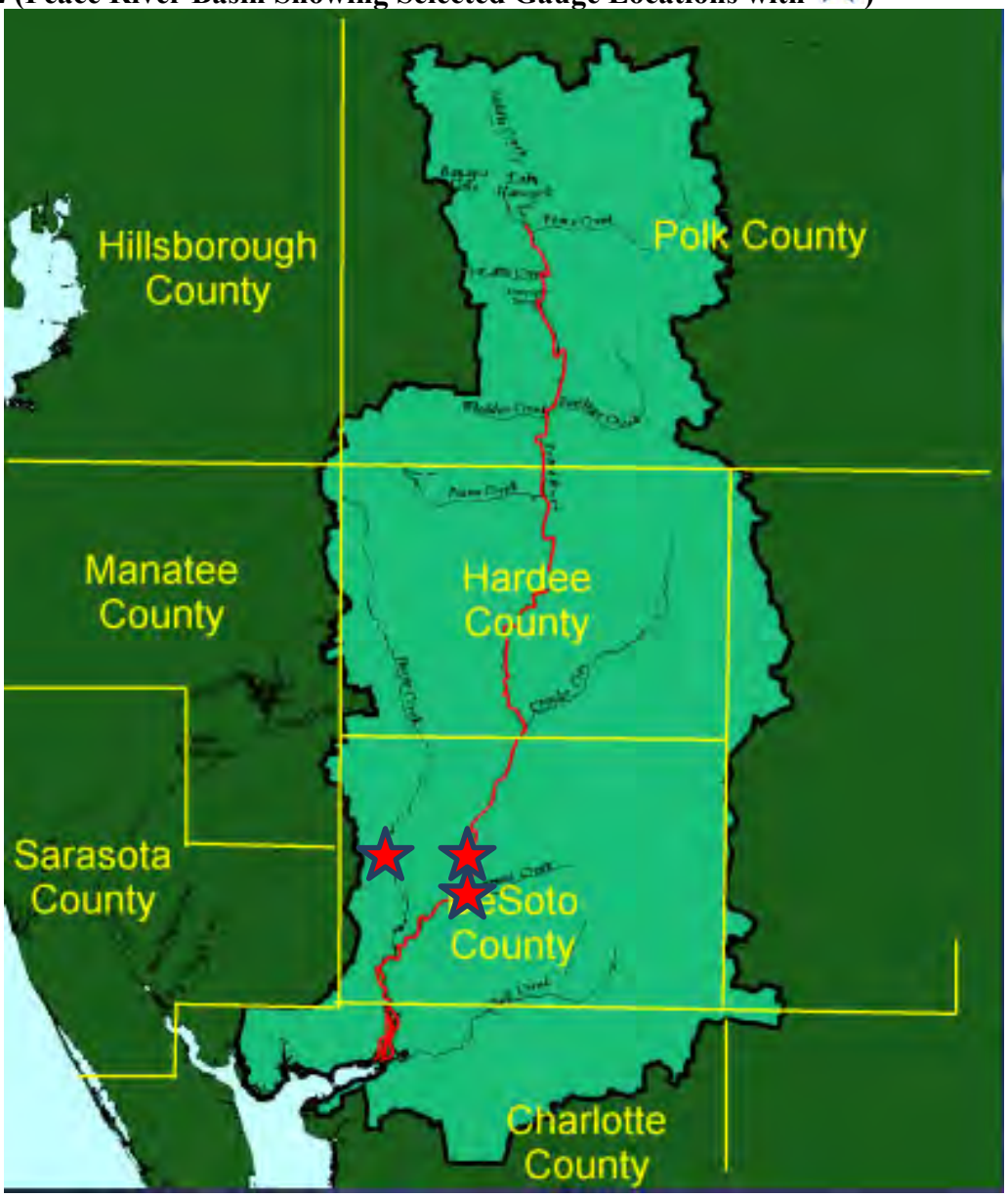
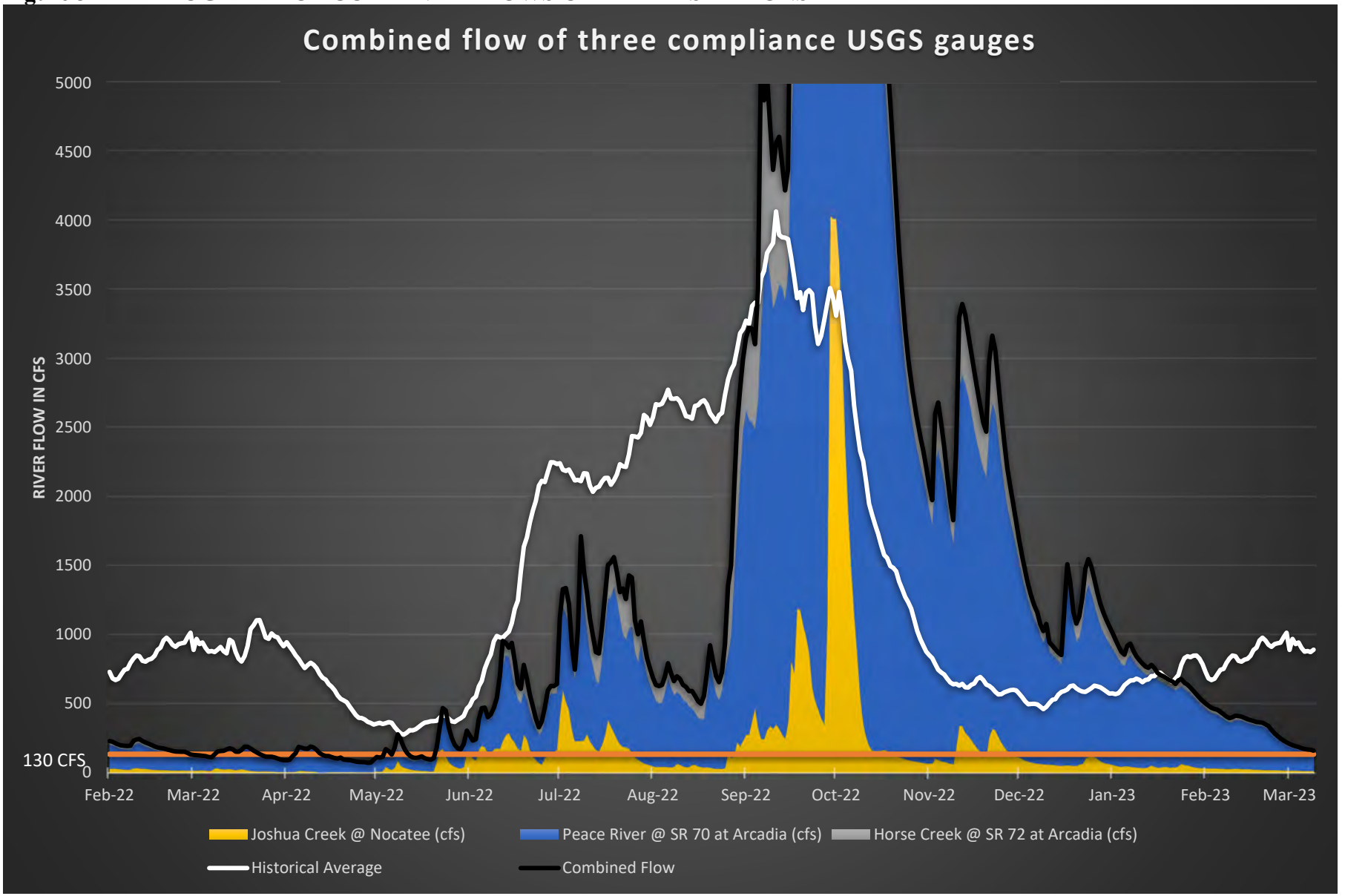


Figure 3 – HYDROGRAPH OF COMBINED FLOWS OF THREE STATIONS



River Withdrawals, Finished Water Production & Demand (February 2022 – February 2023)

Figure 4 provides average daily river withdrawals for each of the last 13 months at the Peace River Facility in million gallons per day (MGD). Average withdrawals for February 2023 (29.8 MGD) were 15.6 MGD higher than those that occurred in February 2022 (14.2 MGD) with river flows remaining above historical averages partially in response to Hurricane Ian.

Figure 4

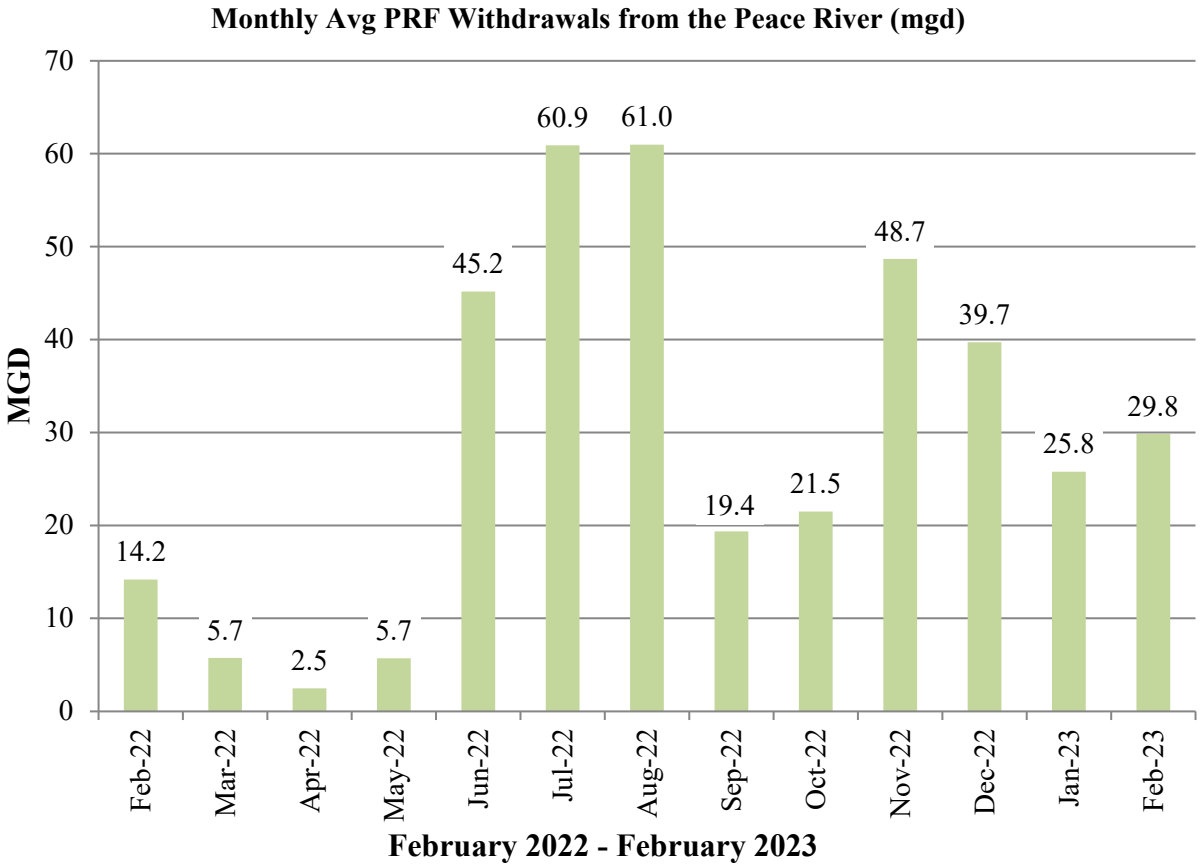
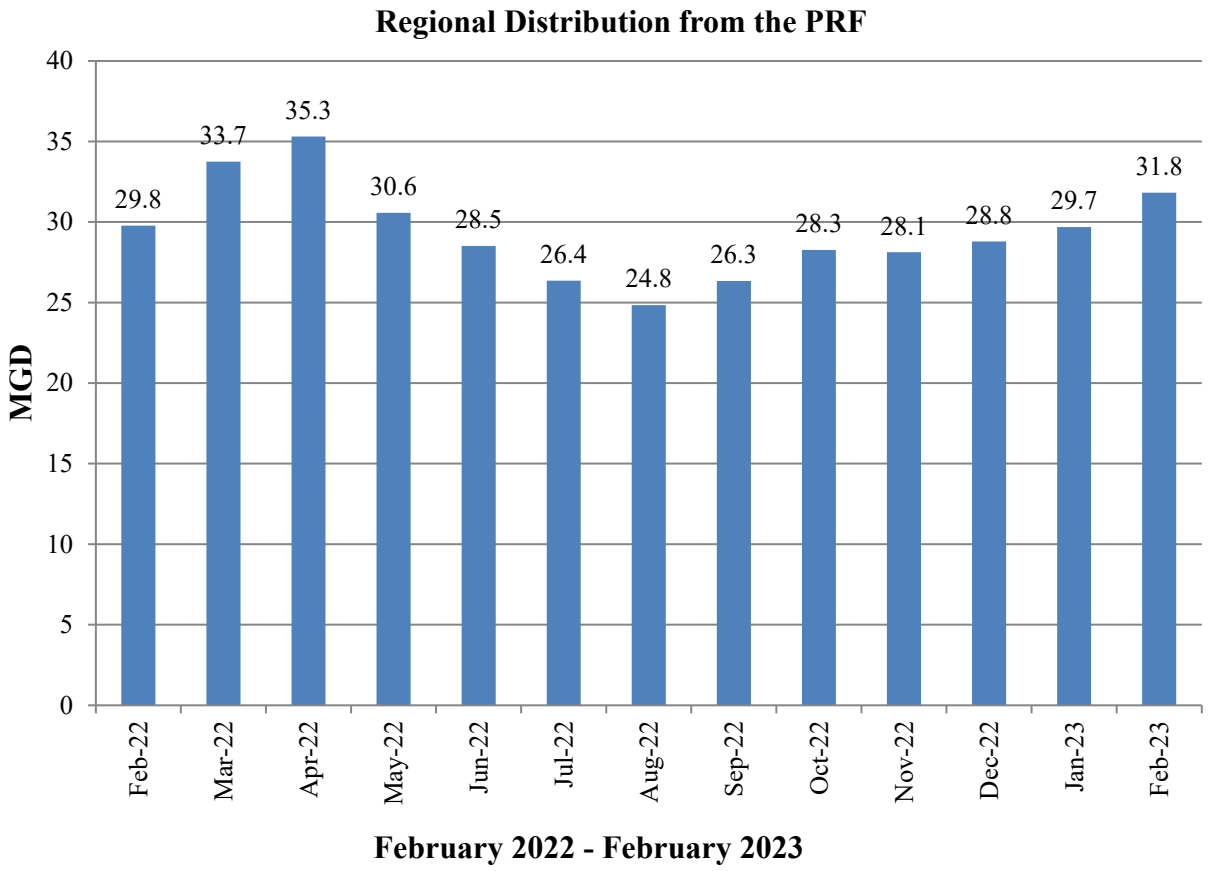


Figure 5 shows average daily finished water distributed to the regional network for each of the last 13-months in MGD. Finished water distribution averaged 31.8 MGD in February 2023, approximately 2.0 MGD more than in February 2022.

The routine exchange of water with the City of Punta Gorda is ongoing with deliveries from the Region to the City south through the Phase 1 Pipeline on US 17 and return of flow from the City to the region north through the Phase 1A Pipeline. The exchange of water through regional pipelines maintains these facilities in a "ready-to-serve" condition at all times.

Figure 5



Stored Supplies at the PRF

The Authority maintains two large capacity off-stream storage systems at the PRF. The primary storage is raw river water stored in Reservoir No. 1 and No. 2. When the flow in the River is high enough, a small percentage of that flow is harvested at the Authority's river intake pumping facility on the Peace River consistent with the permit-authorized diversion schedule and is stored in Reservoirs 1 and 2. Storage volumes in the reservoirs generally decline in the dry season due to lower flows and increase during the wet season as rainfall, flows and river diversions increase. During the hurricane season the permitted total combined raw water storage capacity in Reservoirs 1 and 2 is 6.5 billion gallons (BG). Outside of hurricane season, additional water can be safely stored up to 6.8 BG. **Total raw water stored in the reservoir system as of February 28, 2023, was 6.711 BG, which was 1.035 BG more than February 2022 (5.676 BG).**

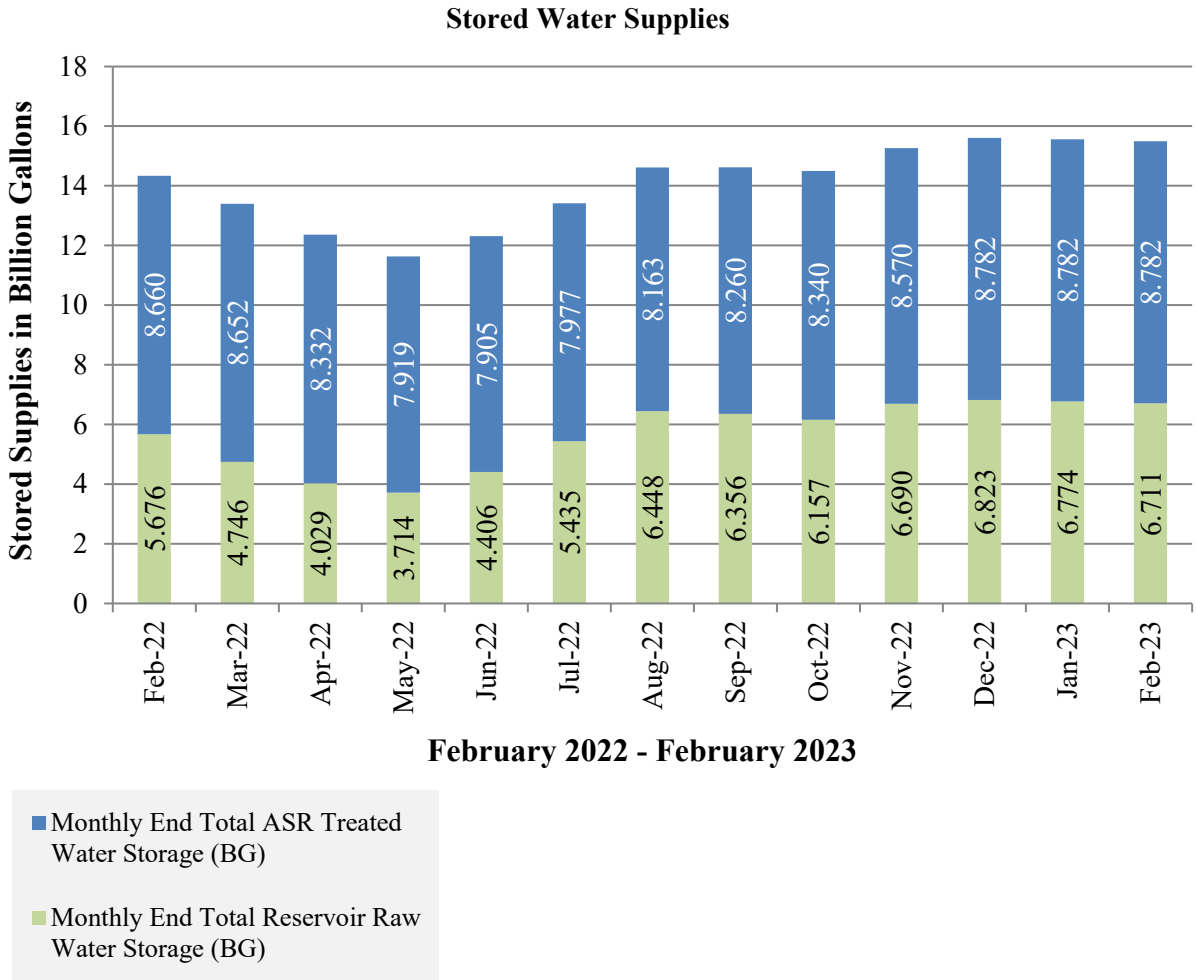
The secondary storage option at the PRF is treated water stored in the Aquifer Storage and Recovery (ASR) system. The ASR system has a design storage capacity of 6.3 BG. However, practical storage capacity is substantially higher as evidenced by the 8.782 BG stored in the ASR system as of February 28, 2023. Because this supply must be fully treated to drinking water standards before storage, it can't be stored as rapidly as water in the raw-water reservoirs. Filling ASR storage is done incrementally each year during the wet season as excess treatment capacity (due to lower public water supply demand) and hydrologic conditions allow. Water recovered

from ASR during the dry season is discharged to the surface reservoir system and undergoes full treatment again with the rest of the raw-water stream before delivery to Authority Customers.

In 2022, recovery from the ASR system was active from early April to early June totaling 755 MG. ASR recharge began in July and continued through December 30, 2022, with a total of 876.46 MG recharged. **Total ASR system storage as of February 28, 2023, was 8.782 BG (2.482 BG greater than design storage capacity), and 122 MG more than February 2022 (8.660 BG).**

Stored raw water supplies (combined storage in Reservoir No. 1 and No. 2) and stored water in the ASR system for the past year are shown in **Figure 6**. **The total water in storage as of February 28, 2023, was approximately 15.49 BG, approximately 1.157 BG higher than total storage in February 2022 (14.34 BG).**

Figure 6



PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

ROUTINE STATUS REPORTS
ITEM 2

Check Registers for January & February 2023

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JANUARY & FEBRUARY 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/12/2023		QuickBooks Payroll Service	$	113,231.54
01/13/2023	39732	AMAZON	$	930.96
01/13/2023	39733	AWWA	$	90.00
01/13/2023	39734	BILL'S BOTTLED WATER SERVICE	$	16.75
01/13/2023	39735	DEX IMAGING	$	2,495.83
01/13/2023	39736	FLORIDA DEPT OF TRANSPORTATION	$	6.78
01/13/2023	39737	FLORIDA POWER & LIGHT COMPANY	$	234,485.74
01/13/2023	39738	HOME DEPOT	$	997.50
01/13/2023	39739	INGMAN MARINE	$	102.85
01/13/2023	39740	KED GROUP INC	$	7,774.00
01/13/2023	39741	NaturZone Pest Control	$	79.80
01/13/2023	39742	PNC Bank N A	$	28,270.15
01/13/2023	39743	TRULY NOLEN Branch 093	$	495.00
01/13/2023	39744	U.S. BANK EQUIPMENT FINANCE	$	1,052.67
01/13/2023	39745	VERIZON WIRELESS	$	98.18
01/13/2023	39746	Waste Pro Bradenton/Sarasota	$	190.00
01/13/2023	ACH5656	Air Mechanical & Service Corp	$	3,560.00
01/13/2023	ACH5657	AIRGAS USA LLC	$	240.29
01/13/2023	ACH5658	ALFA LAVAL INC	$	257.24
01/13/2023	ACH5659	ALLIED ELECTRONICS INC	$	6,801.27
01/13/2023	ACH5660	ALLIED UNIVERSAL CORP	$	35,412.37
01/13/2023	ACH5661	AMAZON Business	$	2,301.23
01/13/2023	ACH5662	ASRUS LLC	$	6,210.00
01/13/2023	ACH5663	AWC INC	$	2,770.41
01/13/2023	ACH5664	BENCHMARK ENVIROANALYTICAL INC	$	304.00
01/13/2023	ACH5665	BLACK & VEATCH	$	3,230.94
01/13/2023	ACH5666	TOI TOI USA	$	866.96
01/13/2023	ACH5667	Brenntag Mid-South Inc	$	116,422.47
01/13/2023	ACH5668	C & S CHEMICALS INC	$	174,140.82
01/13/2023	ACH5669	Calgon Carbon Corporation	$	59,200.00
01/13/2023	ACH5670	CED - Port Charlotte	$	2,934.04
01/13/2023	ACH5671	CENTURYLINK	$	370.40
01/13/2023	ACH5672	CenturyLink-6358	$	1,637.68
01/13/2023	ACH5673	Certain Services INC	$	100.00
01/13/2023	ACH5674	CHARLOTTE COUNTY BCC - LANDFILL	$	3,930.71
01/13/2023	ACH5675	CHARLOTTE COUNTY BD OF COMMISSIONER	$	104,762.51
01/13/2023	ACH5676	CHENANGO SUPPLY CO., INC.	$	55.95
01/13/2023	ACH5677	CINTAS	$	709.22
01/13/2023	ACH5678	DESOTO COUNTY (V)	$	66,333.33
01/13/2023	ACH5679	Destination Powersports	$	16,246.00
01/13/2023	ACH5680	DMS-FINANCIAL MGMT SERVICES	$	448.00
01/13/2023	ACH5681	EARTH BALANCE	$	26,637.86
01/13/2023	ACH5682	Entech Computer Services LLC	$	13,035.98
01/13/2023	ACH5683	Environmental Systems Research Institute	$	2,374.00
01/13/2023	ACH5684	FEDERAL EXPRESS	$	11.99
01/13/2023	ACH5685	Fisher Scientific	$	865.70
01/13/2023	ACH5686	Florida Spec Services Inc	$	2,000.00
01/13/2023	ACH5687	Frontier-941	$	245.84
01/13/2023	ACH5688	FRONTIER COMMUNICATIONS-305	$	240.98
01/13/2023	ACH5689	GARNEY CONSTRUCTION	$	74,311.00
01/13/2023	ACH5691	GRAINGER	$	3,934.20
01/13/2023	ACH5692	Hach Company	$	1,239.26
01/13/2023	ACH5693	HAZEN AND SAWYER	$	14,235.43
01/13/2023	ACH5694	HDR ENGINEERING INC	$	3,179.50
01/13/2023	ACH5695	Hostetler Irrigation Inc	$	157.95
01/13/2023	ACH5696	JANICKI ENVIRONMENTAL INC	$	23,836.00
01/13/2023	ACH5697	Apex	$	1,409.67
01/13/2023	ACH5698	KONE Inc	$	570.38
01/13/2023	ACH5699	Locher Environmental LLC	$	4,346.05
01/13/2023	ACH5700	MADER ELECTRIC INC	$	2,063.74
01/13/2023	ACH5701	MANSON BOLVES DONALDSON TANNER	$	14,920.46
01/13/2023	ACH5702	Marisol Garcia (V)	$	63.00
01/13/2023	ACH5703	MSC INDUSTRIAL SUPPLY CO	$	748.50
01/13/2023	ACH5704	NATIONAL BUSINESS FURNITURE, LLC	$	2,990.50
01/13/2023	ACH5705	Pitney Bowes Purchase Power	$	125.00
01/13/2023	ACH5706	PRO-CHEM INC	$	136.90
01/13/2023	ACH5707	RESPEC Company LLC	$	5,115.00
01/13/2023	ACH5708	Razorback LLC	$	14,900.00

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JANUARY & FEBRUARY 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/13/2023	ACH5709	STANTEC CONSULTING SERVICES	$	35,129.00
01/13/2023	ACH5710	SUNSHINE ACE HARDWARE	$	39.69
01/13/2023	ACH5711	SUNSHINE STATE ONE CALL OF FL INC	$	68.68
01/13/2023	ACH5712	Tanner Industries, Inc	$	12,843.66
01/13/2023	ACH5713	THERMO ELECTRON NORTH AMERICA LLC	$	1,271.25
01/13/2023	ACH5714	TRULY NOLEN BRANCH 079	$	303.00
01/13/2023	ACH5715	USA Bluebook	$	2,211.10
01/13/2023	ACH5716	Vanguard Cleaning Systems of SW Florida	$	3,150.00
01/13/2023	ACH5717	WOMACK SANITATION INC	$	298.00
01/13/2023	ADBT011323	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
01/13/2023	DBT011323	United States Treasury	$	37,368.26
01/13/2023	dbt011323	Valic	$	9,760.26
01/24/2023	ACH12312022	PNC Bank	$	7,613.95
01/26/2023		QuickBooks Payroll Service	$	107,342.31
01/27/2023	39748	AMAZON	$	117.68
01/27/2023	39749	Braden River Utilities LLC	$	230.10
01/27/2023	39750	D M CONSTRUCTION CORP	$	14,299.74
01/27/2023	39751	FLORIDA DEPT OF TRANSPORTATION	$	2.50
01/27/2023	39752	NaturZone Pest Control	$	146.79
01/27/2023	39753	PNC Bank N A	$	2,243.84
01/27/2023	39754	SAM'S CLUB	$	400.06
01/27/2023	39755	SARASOTA COUNTY ENVIRONMENTAL UTILITIES	$	9,254.57
01/27/2023	39756	TIRE KINGDOM	$	187.86
01/27/2023	39757	TRULY NOLEN Branch 093	$	297.00
01/27/2023	39758	VERIZON WIRELESS	$	94.33
01/27/2023	ACH5718	AA ELECTRIC SE INC	$	1,044.11
01/27/2023	ACH5719	Abacus Web Services	$	31.25
01/27/2023	ACH5720	Advanced Overhead Systems	$	1,549.30
01/27/2023	ACH5721	ALFA LAVAL INC	$	256,706.42
01/27/2023	ACH5722	ALLIED UNIVERSAL CORP	$	8,935.40
01/27/2023	ACH5723	AWC INC	$	1,430.00
01/27/2023	ACH5724	BENCHMARK ENVIROANALYTICAL INC	$	369.00
01/27/2023	ACH5725	C & S CHEMICALS INC	$	96,873.70
01/27/2023	ACH5726	Calgon Carbon Corporation	$	59,052.00
01/27/2023	ACH5727	CENTURYLINK	$	386.70
01/27/2023	ACH5728	CenturyLink-6358	$	1,644.19
01/27/2023	ACH5729	Centurylink 3363	$	142.91
01/27/2023	ACH5730	CINTAS	$	99.00
01/27/2023	ACH5731	DESOTO COUNTY BOCC	$	2,637.10
01/27/2023	ACH5732	EARTH BALANCE	$	6,856.65
01/27/2023	ACH5733	Extreme Divers	$	13,952.42
01/27/2023	ACH5734	FEDERAL EXPRESS	$	51.02
01/27/2023	ACH5735	Fisher Scientific	$	1,805.53
01/27/2023	ACH5736	Hach Company	$	3,385.67
01/27/2023	ACH5737	HVMI LLC	$	11,419.70
01/27/2023	ACH5738	JOHNSON ENGINEERING INC	$	51,783.10
01/27/2023	ACH5739	Apex	$	1,374.46
01/27/2023	ACH5740	MADER ELECTRIC INC	$	3,500.00
01/27/2023	ACH5741	Marisol Garcia (V)	$	138.00
01/27/2023	ACH5742	Matt's Lawn Service	$	3,400.00
01/27/2023	ACH5743	MCMASTER-CARR SUPPLY CO	$	528.58
01/27/2023	ACH5744	MSC INDUSTRIAL SUPPLY CO	$	3,036.07
01/27/2023	ACH5745	NATIONAL BUSINESS FURNITURE, LLC	$	1,531.25
01/27/2023	ACH5746	Navitas Credit Corp	$	416.91
01/27/2023	ACH5747	PRO-CHEM INC	$	757.60
01/27/2023	ACH5748	RESPEC Company LLC	$	14,201.38
01/27/2023	ACH5749	Public Resources Advisory Group Inc	$	10,420.81
01/27/2023	ACH5750	Razorback LLC	$	35,840.00
01/27/2023	ACH5751	SOLARES CONTROLS	$	317.93
01/27/2023	ACH5752	STANTEC CONSULTING SERVICES	$	3,199.50
01/27/2023	ACH5753	U.S. TENT RENTAL INC	$	104.94
01/27/2023	ACH5754	UNDERWATER ENGINEERING SERVICES INC	$	30,500.00
01/27/2023	ACH5755	US Plastic Corp	$	1,702.72
01/27/2023	ACH5756	USA Bluebook	$	1,285.08
01/27/2023	ACH5757	Vanguard Cleaning Systems of SW Florida	$	510.00
01/27/2023	ACH5758	VOYAGER FLEET SYSTEMS INC	$	2,979.30

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JANUARY & FEBRUARY 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/27/2023	ADBT012723	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
01/27/2023	DBT012723	United States Treasury	$	43,174.48
01/27/2023	dbt012723	Valic	$	54,582.03
01/27/2023	DBT013123	FLORIDA DIVISION OF RETIREMENT	$	71,258.71
02/08/2023	ADBT020823	Valic	$	9,555.08
02/09/2023		QuickBooks Payroll Service	$	109,539.67
02/10/2023	39759	AWWA	$	266.00
02/10/2023	39760	DESOTO COUNTY WATER UTILITY	$	1,606.59
02/10/2023	39761	FLORIDA POWER & LIGHT COMPANY	$	222,920.51
02/10/2023	39762	HOME DEPOT	$	287.77
02/10/2023	39763	KED GROUP INC	$	24,837.20
02/10/2023	39764	M&K Quality Decks Inc	$	50.00
02/10/2023	39765	NaturZone Pest Control	$	83.79
02/10/2023	39766	SARASOTA TROPHY & AWARDS INC	$	376.75
02/10/2023	39767	SMITH RANCH & GARDEN INC	$	250.00
02/10/2023	39768	TIRE KINGDOM	$	262.38
02/10/2023	39769	U.S. BANK EQUIPMENT FINANCE	$	1,052.67
02/10/2023	39770	Waste Pro Bradenton/Sarasota	$	190.00
02/10/2023	ACH5759	1& Done Handyman LLC	$	500.00
02/10/2023	ACH5760	AIR CENTERS-FLORIDA	$	8,694.06
02/10/2023	ACH5761	Air Mechanical & Service Corp	$	1,211.34
02/10/2023	ACH5762	AIRGAS USA LLC	$	240.29
02/10/2023	ACH5763	ALLIED ELECTRONICS INC	$	551.53
02/10/2023	ACH5764	ALLIED UNIVERSAL CORP	$	41,634.41
02/10/2023	ACH5765	AMAZON Business	$	140.04
02/10/2023	ACH5766	BENCHMARK ENVIROANALYTICAL INC	$	1,684.50
02/10/2023	ACH5767	BLACK & VEATCH	$	49,187.85
02/10/2023	ACH5768	TOI TOI USA	$	433.48
02/10/2023	ACH5769	Brenntag Mid-South Inc	$	86,847.60
02/10/2023	ACH5770	C & S CHEMICALS INC	$	89,400.08
02/10/2023	ACH5771	Calgon Carbon Corporation	$	58,667.20
02/10/2023	ACH5772	CED - Port Charlotte	$	2,867.15
02/10/2023	ACH5773	CHARLOTTE COUNTY BCC - LANDFILL	$	4,467.00
02/10/2023	ACH5774	CHARLOTTE COUNTY BD OF COMMISSIONER	$	106,500.01
02/10/2023	ACH5775	CINTAS	$	353.87
02/10/2023	ACH5776	CORONADO LAWN SERVICE OF FL	$	7,383.00
02/10/2023	ACH5777	DESOTO COUNTY (V)	$	66,333.33
02/10/2023	ACH5778	Destination Powersports	$	1,975.95
02/10/2023	ACH5779	DMS-FINANCIAL MGMT SERVICES	$	447.94
02/10/2023	ACH5780	EARTH BALANCE	$	2,875.00
02/10/2023	ACH5781	Entech Computer Services LLC	$	8,384.00
02/10/2023	ACH5782	FEDERAL EXPRESS	$	9.94
02/10/2023	ACH5783	Fisher Scientific	$	283.17
02/10/2023	ACH5784	FLUID CONTROL SPECIALTIES INC	$	4,478.00
02/10/2023	ACH5785	Frontier-941	$	250.07
02/10/2023	ACH5786	Hach Company	$	2,517.00
02/10/2023	ACH5787	HVMI LLC	$	2,558.00
02/10/2023	ACH5788	JANICKI ENVIRONMENTAL INC	$	25,180.00
02/10/2023	ACH5789	Apex	$	2,814.83
02/10/2023	ACH5790	Ardurra Group	$	2,497.50
02/10/2023	ACH5791	McKim and Creed INC	$	3,153.75
02/10/2023	ACH5792	MIS Moss Integration Solutions Inc	$	2,494.95
02/10/2023	ACH5793	MSC INDUSTRIAL SUPPLY CO	$	239.22
02/10/2023	ACH5794	Navitas Credit Corp	$	211.58
02/10/2023	ACH5795	Practical HR Solutions	$	1,200.00
02/10/2023	ACH5796	Precision Gate & Security Inc	$	3,374.00
02/10/2023	ACH5797	PRO-CHEM INC	$	551.90
02/10/2023	ACH5798	Razorback LLC	$	47,764.00
02/10/2023	ACH5799	ROGERS PETROLEUM INC	$	1,243.49
02/10/2023	ACH5800	SIMS CRANE & EQUIPMENT	$	3,922.75
02/10/2023	ACH5801	SUNBELT RENTALS	$	223.34
02/10/2023	ACH5802	SUNSHINE STATE ONE CALL OF FL INC	$	68.68
02/10/2023	ACH5803	ULINE	$	403.37
02/10/2023	ACH5804	USA Bluebook	$	15,288.11
02/10/2023	ACH5805	Vanguard Cleaning Systems of SW Florida	$	2,850.00
02/10/2023	ACH5806	VOYAGER FLEET SYSTEMS INC	$	2,946.03
02/10/2023	ACH5807	WOMACK SANITATION INC	$	750.00

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JANUARY & FEBRUARY 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
02/10/2023	ACH5808	Global Document Services	$	46,014.52
02/10/2023	ADBT021023	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
02/10/2023	DT021023	United States Treasury	$	35,456.66
02/10/2023	ADBT21023	Michigan Child Support (ExpertPay)	$	171.72
02/10/2023	DBT021023	Michigan Child Support (ExpertPay)	$	2.50
02/23/2023		QuickBooks Payroll Service	$	109,362.53
02/23/2023	ADBT022423	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
02/23/2023	DBT022423	United States Treasury	$	35,317.84
02/23/2023	adbt022323	Valic	$	9,552.31
02/24/2023	39771	BILL'S BOTTLED WATER SERVICE	$	16.50
02/24/2023	39772	Braden River Utilities LLC	$	112.34
02/24/2023	39773	D M CONSTRUCTION CORP	$	14,091.31
02/24/2023	39774	HOME DEPOT	$	138.97
02/24/2023	39775	SAM'S CLUB	$	27.98
02/24/2023	39776	VERIZON WIRELESS	$	93.39
02/24/2023	ACH5809	AIR CENTERS-FLORIDA	$	1,684.34
02/24/2023	ACH5810	Air Mechanical & Service Corp	$	156.00
02/24/2023	ACH5811	ALLIED UNIVERSAL CORP	$	31,520.24
02/24/2023	ACH5812	AMAZON Business	$	4,402.82
02/24/2023	ACH5813	Apex	$	386.35
02/24/2023	ACH5814	Apple Video & Photography Studio	$	7,545.00
02/24/2023	ACH5815	ASRUS LLC	$	1,530.00
02/24/2023	ACH5816	BENCHMARK ENVIROANALYTICAL INC	$	951.00
02/24/2023	ACH5817	Brenntag Mid-South Inc	$	48,374.38
02/24/2023	ACH5818	Brown and Caldwell	$	115,648.55
02/24/2023	ACH5819	C & S CHEMICALS INC	$	96,590.34
02/24/2023	ACH5820	CED - Port Charlotte	$	3,610.38
02/24/2023	ACH5821	CENTURYLINK	$	150.79
02/24/2023	ACH5822	CenturyLink-6358	$	1,644.19
02/24/2023	ACH5824	CINTAS	$	482.12
02/24/2023	ACH5825	CINTAS FIRE 636525	$	1,890.00
02/24/2023	ACH5826	Destination Powersports	$	212.99
02/24/2023	ACH5827	DMS-FINANCIAL MGMT SERVICES	$	448.48
02/24/2023	ACH5828	EARTH BALANCE	$	673.27
02/24/2023	ACH5829	Entech Computer Services LLC	$	6,520.65
02/24/2023	ACH5830	FEDERAL EXPRESS	$	11.41
02/24/2023	ACH5831	FEL-FT MYERS WATERWORKS	$	1,509.88
02/24/2023	ACH5832	Fisher Scientific	$	3,774.56
02/24/2023	ACH5833	Flotech INC	$	1,165.24
02/24/2023	ACH5834	FRONTIER COMMUNICATIONS-305	$	240.98
02/24/2023	ACH5835	GRAINGER	$	3,021.37
02/24/2023	ACH5836	Hach Company	$	2,751.17
02/24/2023	ACH5837	HAZEN AND SAWYER	$	24,875.42
02/24/2023	ACH5838	Hostetler Irrigation Inc	$	180.90
02/24/2023	ACH5839	Jim Guida (V)	$	366.06
02/24/2023	ACH5840	JOHNSON ENGINEERING INC	$	16,007.50
02/24/2023	ACH5841	Matt's Lawn Service	$	775.00
02/24/2023	ACH5842	MSC INDUSTRIAL SUPPLY CO	$	1,610.69
02/24/2023	ACH5843	NATIONAL BUSINESS FURNITURE, LLC	$	1,620.30
02/24/2023	ACH5844	Natural Resources LLC	$	6,900.50
02/24/2023	ACH5845	Poole & Kent Company of Florida	$	172,824.87
02/24/2023	ACH5846	Precision Gate & Security Inc	$	2,125.00
02/24/2023	ACH5847	RESPEC Company LLC	$	17,810.62
02/24/2023	ACH5848	Public Resources Advisory Group Inc	$	3,963.65
02/24/2023	ACH5849	SOUTHWEST MOBILE MECHANIC	$	500.00
02/24/2023	ACH5850	STANTEC CONSULTING SERVICES	$	173,632.72
02/24/2023	ACH5851	SUNSHINE ACE HARDWARE	$	344.91
02/24/2023	ACH5852	Tanner Industries, Inc	$	12,809.61
02/24/2023	ACH5853	THE BANK OF NEW YORK MELLON	$	750.00
02/24/2023	ACH5854	TRINOVA INC.	$	1,213.44

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
CHECK REGISTER: JANUARY & FEBRUARY 2023

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
02/24/2023	ACH5855	TRULY NOLEN BRANCH 079	$	303.00
02/24/2023	ACH5856	ULINE	$	695.90
02/24/2023	ACH5857	UNITED STATES GEOLOGICAL SURVEY	$	8,652.50
02/24/2023	ACH5858	USA Bluebook	$	1,996.99
02/24/2023	ACH5859	Vertiv Corporation	$	3,488.55
02/24/2023	ACH5860	Woodard & Curran Inc	$	16,470.00
02/24/2023	DBT022423	FLORIDA DIVISION OF RETIREMENT	$	54,407.04
02/24/2023	adbt022423	Michigan Child Support (ExpertPay)	$	171.72
		Total	**$**	**4,415,709.71**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
02/10/2023	ACH5759	1& Done Handyman LLC	$	500.00
01/27/2023	ACH5718	AA ELECTRIC SE INC	$	1,044.11
01/27/2023	ACH5719	Abacus Web Services	$	31.25
01/27/2023	ACH5720	Advanced Overhead Systems	$	1,549.30
02/10/2023	ACH5760	AIR CENTERS-FLORIDA	$	8,694.06
02/24/2023	ACH5809	AIR CENTERS-FLORIDA	$	1,684.34
01/13/2023	ACH5656	Air Mechanical & Service Corp	$	3,560.00
02/10/2023	ACH5761	Air Mechanical & Service Corp	$	1,211.34
02/24/2023	ACH5810	Air Mechanical & Service Corp	$	156.00
01/13/2023	ACH5657	AIRGAS USA LLC	$	240.29
02/10/2023	ACH5762	AIRGAS USA LLC	$	240.29
01/13/2023	ACH5658	ALFA LAVAL INC	$	257.24
01/27/2023	ACH5721	ALFA LAVAL INC	$	256,706.42
01/13/2023	ACH5659	ALLIED ELECTRONICS INC	$	6,801.27
02/10/2023	ACH5763	ALLIED ELECTRONICS INC	$	551.53
01/13/2023	ACH5660	ALLIED UNIVERSAL CORP	$	35,412.37
01/27/2023	ACH5722	ALLIED UNIVERSAL CORP	$	8,935.40
02/10/2023	ACH5764	ALLIED UNIVERSAL CORP	$	41,634.41
02/24/2023	ACH5811	ALLIED UNIVERSAL CORP	$	31,520.24
01/13/2023	39732	AMAZON	$	930.96
01/27/2023	39748	AMAZON	$	117.68
01/13/2023	ACH5661	AMAZON Business	$	2,301.23
02/10/2023	ACH5765	AMAZON Business	$	140.04
02/24/2023	ACH5812	AMAZON Business	$	4,402.82
01/13/2023	ACH5697	Apex	$	1,409.67
01/27/2023	ACH5739	Apex	$	1,374.46
02/10/2023	ACH5789	Apex	$	2,814.83
02/24/2023	ACH5813	Apex	$	386.35
02/24/2023	ACH5814	Apple Video & Photography Studio	$	7,545.00
02/10/2023	ACH5790	Ardurra Group	$	2,497.50
01/13/2023	ACH5662	ASRUS LLC	$	6,210.00
02/24/2023	ACH5815	ASRUS LLC	$	1,530.00
01/13/2023	ACH5663	AWC INC	$	2,770.41
01/27/2023	ACH5723	AWC INC	$	1,430.00
01/13/2023	39733	AWWA	$	90.00
02/10/2023	39759	AWWA	$	266.00
01/13/2023	ACH5664	BENCHMARK ENVIROANALYTICAL INC	$	304.00
01/27/2023	ACH5724	BENCHMARK ENVIROANALYTICAL INC	$	369.00
02/10/2023	ACH5766	BENCHMARK ENVIROANALYTICAL INC	$	1,684.50
02/24/2023	ACH5816	BENCHMARK ENVIROANALYTICAL INC	$	951.00
01/13/2023	39734	BILL'S BOTTLED WATER SERVICE	$	16.75
02/24/2023	39771	BILL'S BOTTLED WATER SERVICE	$	16.50
01/13/2023	ACH5665	BLACK & VEATCH	$	3,230.94
02/10/2023	ACH5767	BLACK & VEATCH	$	49,187.85
01/27/2023	39749	Braden River Utilities LLC	$	230.10
02/24/2023	39772	Braden River Utilities LLC	$	112.34
01/13/2023	ACH5667	Brenntag Mid-South Inc	$	116,422.47
02/10/2023	ACH5769	Brenntag Mid-South Inc	$	86,847.60
02/24/2023	ACH5817	Brenntag Mid-South Inc	$	48,374.38
02/24/2023	ACH5818	Brown and Caldwell	$	115,648.55
01/13/2023	ACH5668	C & S CHEMICALS INC	$	174,140.82
01/27/2023	ACH5725	C & S CHEMICALS INC	$	96,873.70
02/10/2023	ACH5770	C & S CHEMICALS INC	$	89,400.08
02/24/2023	ACH5819	C & S CHEMICALS INC	$	96,590.34
01/13/2023	ACH5669	Calgon Carbon Corporation	$	59,200.00
01/27/2023	ACH5726	Calgon Carbon Corporation	$	59,052.00
02/10/2023	ACH5771	Calgon Carbon Corporation	$	58,667.20
01/13/2023	ACH5670	CED - Port Charlotte	$	2,934.04
02/10/2023	ACH5772	CED - Port Charlotte	$	2,867.15
02/24/2023	ACH5820	CED - Port Charlotte	$	3,610.38
01/13/2023	ACH5671	CENTURYLINK	$	370.40
01/27/2023	ACH5727	CENTURYLINK	$	386.70
02/24/2023	ACH5821	CENTURYLINK	$	150.79
01/27/2023	ACH5729	Centurylink 3363	$	142.91
01/13/2023	ACH5672	CenturyLink-6358	$	1,637.68
01/27/2023	ACH5728	CenturyLink-6358	$	1,644.19
02/24/2023	ACH5822	CenturyLink-6358	$	1,644.19
01/13/2023	ACH5673	Certain Services INC	$	100.00

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/13/2023	ACH5674	CHARLOTTE COUNTY BCC - LANDFILL	$	3,930.71
02/10/2023	ACH5773	CHARLOTTE COUNTY BCC - LANDFILL	$	4,467.00
01/13/2023	ACH5675	CHARLOTTE COUNTY BD OF COMMISSIONER	$	104,762.51
02/10/2023	ACH5774	CHARLOTTE COUNTY BD OF COMMISSIONER	$	106,500.01
01/13/2023	ACH5676	CHENANGO SUPPLY CO., INC.	$	55.95
01/13/2023	ACH5677	CINTAS	$	709.22
01/27/2023	ACH5730	CINTAS	$	99.00
02/10/2023	ACH5775	CINTAS	$	353.87
02/24/2023	ACH5824	CINTAS	$	482.12
02/24/2023	ACH5825	CINTAS FIRE 636525	$	1,890.00
02/10/2023	ACH5776	CORONADO LAWN SERVICE OF FL	$	7,383.00
01/27/2023	39750	D M CONSTRUCTION CORP	$	14,299.74
02/24/2023	39773	D M CONSTRUCTION CORP	$	14,091.31
01/13/2023	ACH5678	DESOTO COUNTY (V)	$	66,333.33
02/10/2023	ACH5777	DESOTO COUNTY (V)	$	66,333.33
01/27/2023	ACH5731	DESOTO COUNTY BOCC	$	2,637.10
02/10/2023	39760	DESOTO COUNTY WATER UTILITY	$	1,606.59
01/13/2023	ACH5679	Destination Powersports	$	16,246.00
02/10/2023	ACH5778	Destination Powersports	$	1,975.95
02/24/2023	ACH5826	Destination Powersports	$	212.99
01/13/2023	39735	DEX IMAGING	$	2,495.83
01/13/2023	ACH5680	DMS-FINANCIAL MGMT SERVICES	$	448.00
02/10/2023	ACH5779	DMS-FINANCIAL MGMT SERVICES	$	447.94
02/24/2023	ACH5827	DMS-FINANCIAL MGMT SERVICES	$	448.48
01/13/2023	ACH5681	EARTH BALANCE	$	26,637.86
01/27/2023	ACH5732	EARTH BALANCE	$	6,856.65
02/10/2023	ACH5780	EARTH BALANCE	$	2,875.00
02/24/2023	ACH5828	EARTH BALANCE	$	673.27
01/13/2023	ACH5682	Entech Computer Services LLC	$	13,035.98
02/10/2023	ACH5781	Entech Computer Services LLC	$	8,384.00
02/24/2023	ACH5829	Entech Computer Services LLC	$	6,520.65
01/13/2023	ACH5683	Environmental Systems Research Institute	$	2,374.00
01/27/2023	ACH5733	Extreme Divers	$	13,952.42
01/13/2023	ACH5684	FEDERAL EXPRESS	$	11.99
01/27/2023	ACH5734	FEDERAL EXPRESS	$	51.02
02/10/2023	ACH5782	FEDERAL EXPRESS	$	9.94
02/24/2023	ACH5830	FEDERAL EXPRESS	$	11.41
02/24/2023	ACH5831	FEL-FT MYERS WATERWORKS	$	1,509.88
01/13/2023	ACH5685	Fisher Scientific	$	865.70
01/27/2023	ACH5735	Fisher Scientific	$	1,805.53
02/10/2023	ACH5783	Fisher Scientific	$	283.17
02/24/2023	ACH5832	Fisher Scientific	$	3,774.56
01/13/2023	39736	FLORIDA DEPT OF TRANSPORTATION	$	6.78
01/27/2023	39751	FLORIDA DEPT OF TRANSPORTATION	$	2.50
01/27/2023	DBT013123	FLORIDA DIVISION OF RETIREMENT	$	71,258.71
02/24/2023	DBT022423	FLORIDA DIVISION OF RETIREMENT	$	54,407.04
01/13/2023	39737	FLORIDA POWER & LIGHT COMPANY	$	234,485.74
02/10/2023	39761	FLORIDA POWER & LIGHT COMPANY	$	222,920.51
01/13/2023	ACH5686	Florida Spec Services Inc	$	2,000.00
02/24/2023	ACH5833	Flotech INC	$	1,165.24
02/10/2023	ACH5784	FLUID CONTROL SPECIALTIES INC	$	4,478.00
01/13/2023	ACH5688	FRONTIER COMMUNICATIONS-305	$	240.98
02/24/2023	ACH5834	FRONTIER COMMUNICATIONS-305	$	240.98
01/13/2023	ACH5687	Frontier-941	$	245.84
02/10/2023	ACH5785	Frontier-941	$	250.07
01/13/2023	ACH5689	GARNEY CONSTRUCTION	$	74,311.00
02/10/2023	ACH5808	Global Document Services	$	46,014.52
01/13/2023	ACH5691	GRAINGER	$	3,934.20
02/24/2023	ACH5835	GRAINGER	$	3,021.37
01/13/2023	ACH5692	Hach Company	$	1,239.26
01/27/2023	ACH5736	Hach Company	$	3,385.67
02/10/2023	ACH5786	Hach Company	$	2,517.00
02/24/2023	ACH5836	Hach Company	$	2,751.17
01/13/2023	ACH5693	HAZEN AND SAWYER	$	14,235.43
02/24/2023	ACH5837	HAZEN AND SAWYER	$	24,875.42
01/13/2023	ACH5694	HDR ENGINEERING INC	$	3,179.50

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/13/2023	39738	HOME DEPOT	$	997.50
02/10/2023	39762	HOME DEPOT	$	287.77
02/24/2023	39774	HOME DEPOT	$	138.97
01/13/2023	ACH5695	Hostetler Irrigation Inc	$	157.95
02/24/2023	ACH5838	Hostetler Irrigation Inc	$	180.90
01/27/2023	ACH5737	HVMI LLC	$	11,419.70
02/10/2023	ACH5787	HVMI LLC	$	2,558.00
01/13/2023	39739	INGMAN MARINE	$	102.85
01/13/2023	ACH5696	JANICKI ENVIRONMENTAL INC	$	23,836.00
02/10/2023	ACH5788	JANICKI ENVIRONMENTAL INC	$	25,180.00
02/24/2023	ACH5839	Jim Guida (V)	$	366.06
01/27/2023	ACH5738	JOHNSON ENGINEERING INC	$	51,783.10
02/24/2023	ACH5840	JOHNSON ENGINEERING INC	$	16,007.50
01/13/2023	39740	KED GROUP INC	$	7,774.00
02/10/2023	39763	KED GROUP INC	$	24,837.20
01/13/2023	ACH5698	KONE Inc	$	570.38
01/13/2023	ACH5699	Locher Environmental LLC	$	4,346.05
02/10/2023	39764	M&K Quality Decks Inc	$	50.00
01/13/2023	ACH5700	MADER ELECTRIC INC	$	2,063.74
01/27/2023	ACH5740	MADER ELECTRIC INC	$	3,500.00
01/13/2023	ACH5701	MANSON BOLVES DONALDSON TANNER	$	14,920.46
01/13/2023	ACH5702	Marisol Garcia (V)	$	63.00
01/27/2023	ACH5741	Marisol Garcia (V)	$	138.00
01/27/2023	ACH5742	Matt's Lawn Service	$	3,400.00
02/24/2023	ACH5841	Matt's Lawn Service	$	775.00
02/10/2023	ACH5791	McKim and Creed INC	$	3,153.75
01/27/2023	ACH5743	MCMASTER-CARR SUPPLY CO	$	528.58
02/10/2023	ADBT21023	Michigan Child Support (ExpertPay)	$	171.72
02/10/2023	DBT021023	Michigan Child Support (ExpertPay)	$	2.50
02/24/2023	adbt022423	Michigan Child Support (ExpertPay)	$	171.72
02/10/2023	ACH5792	MIS Moss Integration Solutions Inc	$	2,494.95
01/13/2023	ACH5703	MSC INDUSTRIAL SUPPLY CO	$	748.50
01/27/2023	ACH5744	MSC INDUSTRIAL SUPPLY CO	$	3,036.07
02/10/2023	ACH5793	MSC INDUSTRIAL SUPPLY CO	$	239.22
02/24/2023	ACH5842	MSC INDUSTRIAL SUPPLY CO	$	1,610.69
01/13/2023	ACH5704	NATIONAL BUSINESS FURNITURE, LLC	$	2,990.50
01/27/2023	ACH5745	NATIONAL BUSINESS FURNITURE, LLC	$	1,531.25
02/24/2023	ACH5843	NATIONAL BUSINESS FURNITURE, LLC	$	1,620.30
02/24/2023	ACH5844	Natural Resources LLC	$	6,900.50
01/13/2023	39741	NaturZone Pest Control	$	79.80
01/27/2023	39752	NaturZone Pest Control	$	146.79
02/10/2023	39765	NaturZone Pest Control	$	83.79
01/27/2023	ACH5746	Navitas Credit Corp	$	416.91
02/10/2023	ACH5794	Navitas Credit Corp	$	211.58
01/13/2023	ACH5705	Pitney Bowes Purchase Power	$	125.00
01/24/2023	ACH12312022	PNC Bank	$	7,613.95
01/13/2023	39742	PNC Bank N A	$	28,270.15
01/27/2023	39753	PNC Bank N A	$	2,243.84
02/24/2023	ACH5845	Poole & Kent Company of Florida	$	172,824.87
02/10/2023	ACH5795	Practical HR Solutions	$	1,200.00
02/10/2023	ACH5796	Precision Gate & Security Inc	$	3,374.00
02/24/2023	ACH5846	Precision Gate & Security Inc	$	2,125.00
01/13/2023	ACH5706	PRO-CHEM INC	$	136.90
01/27/2023	ACH5747	PRO-CHEM INC	$	757.60
02/10/2023	ACH5797	PRO-CHEM INC	$	551.90
01/27/2023	ACH5749	Public Resources Advisory Group Inc	$	10,420.81
02/24/2023	ACH5848	Public Resources Advisory Group Inc	$	3,963.65
01/12/2023		QuickBooks Payroll Service	$	113,231.54
01/26/2023		QuickBooks Payroll Service	$	107,342.31
02/09/2023		QuickBooks Payroll Service	$	109,539.67
02/23/2023		QuickBooks Payroll Service	$	109,362.53
01/13/2023	ACH5708	Razorback LLC	$	14,900.00
01/27/2023	ACH5750	Razorback LLC	$	35,840.00
02/10/2023	ACH5798	Razorback LLC	$	47,764.00
01/13/2023	ACH5707	RESPEC Company LLC	$	5,115.00
01/27/2023	ACH5748	RESPEC Company LLC	$	14,201.38
02/24/2023	ACH5847	RESPEC Company LLC	$	17,810.62

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
02/10/2023	ACH5799	ROGERS PETROLEUM INC	$	1,243.49
01/27/2023	39754	SAM'S CLUB	$	400.06
02/24/2023	39775	SAM'S CLUB	$	27.98
01/27/2023	39755	SARASOTA COUNTY ENVIRONMENTAL UTILITIES	$	9,254.57
02/10/2023	39766	SARASOTA TROPHY & AWARDS INC	$	376.75
02/10/2023	ACH5800	SIMS CRANE & EQUIPMENT	$	3,922.75
02/10/2023	39767	SMITH RANCH & GARDEN INC	$	250.00
01/27/2023	ACH5751	SOLARES CONTROLS	$	317.93
02/24/2023	ACH5849	SOUTHWEST MOBILE MECHANIC	$	500.00
01/13/2023	ACH5709	STANTEC CONSULTING SERVICES	$	35,129.00
01/27/2023	ACH5752	STANTEC CONSULTING SERVICES	$	3,199.50
02/24/2023	ACH5850	STANTEC CONSULTING SERVICES	$	173,632.72
01/13/2023	ADBT011323	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
01/27/2023	ADBT012723	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
02/10/2023	ADBT021023	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
02/23/2023	ADBT022423	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
02/10/2023	ACH5801	SUNBELT RENTALS	$	223.34
01/13/2023	ACH5710	SUNSHINE ACE HARDWARE	$	39.69
02/24/2023	ACH5851	SUNSHINE ACE HARDWARE	$	344.91
01/13/2023	ACH5711	SUNSHINE STATE ONE CALL OF FL INC	$	68.68
02/10/2023	ACH5802	SUNSHINE STATE ONE CALL OF FL INC	$	68.68
01/13/2023	ACH5712	Tanner Industries, Inc	$	12,843.66
02/24/2023	ACH5852	Tanner Industries, Inc	$	12,809.61
02/24/2023	ACH5853	THE BANK OF NEW YORK MELLON	$	750.00
01/13/2023	ACH5713	THERMO ELECTRON NORTH AMERICA LLC	$	1,271.25
01/27/2023	39756	TIRE KINGDOM	$	187.86
02/10/2023	39768	TIRE KINGDOM	$	262.38
01/13/2023	ACH5666	TOI TOI USA	$	866.96
02/10/2023	ACH5768	TOI TOI USA	$	433.48
02/24/2023	ACH5854	TRINOVA INC.	$	1,213.44
01/13/2023	39743	TRULY NOLEN Branch 093	$	495.00
01/27/2023	39757	TRULY NOLEN Branch 093	$	297.00
01/13/2023	ACH5714	TRULY NOLEN BRANCH 079	$	303.00
02/24/2023	ACH5855	TRULY NOLEN BRANCH 079	$	303.00
01/13/2023	39744	U.S. BANK EQUIPMENT FINANCE	$	1,052.67
02/10/2023	39769	U.S. BANK EQUIPMENT FINANCE	$	1,052.67
01/27/2023	ACH5753	U.S. TENT RENTAL INC	$	104.94
02/10/2023	ACH5803	ULINE	$	403.37
02/24/2023	ACH5856	ULINE	$	695.90
01/27/2023	ACH5754	UNDERWATER ENGINEERING SERVICES INC	$	30,500.00
02/24/2023	ACH5857	UNITED STATES GEOLOGICAL SURVEY	$	8,652.50
01/13/2023	DBT011323	United States Treasury	$	37,368.26
01/27/2023	DBT012723	United States Treasury	$	43,174.48
02/10/2023	DT021023	United States Treasury	$	35,456.66
02/23/2023	DBT022423	United States Treasury	$	35,317.84
01/27/2023	ACH5755	US Plastic Corp	$	1,702.72
01/13/2023	ACH5715	USA Bluebook	$	2,211.10
01/27/2023	ACH5756	USA Bluebook	$	1,285.08
02/10/2023	ACH5804	USA Bluebook	$	15,288.11
02/24/2023	ACH5858	USA Bluebook	$	1,996.99
01/13/2023	dbt011323	Valic	$	9,760.26
01/27/2023	dbt012723	Valic	$	54,582.03
02/08/2023	ADBT020823	Valic	$	9,555.08
02/23/2023	adbt022323	Valic	$	9,552.31
01/13/2023	ACH5716	Vanguard Cleaning Systems of SW Florida	$	3,150.00
01/27/2023	ACH5757	Vanguard Cleaning Systems of SW Florida	$	510.00
02/10/2023	ACH5805	Vanguard Cleaning Systems of SW Florida	$	2,850.00
01/13/2023	39745	VERIZON WIRELESS	$	98.18
01/27/2023	39758	VERIZON WIRELESS	$	94.33
02/24/2023	39776	VERIZON WIRELESS	$	93.39

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

Alphabetically by Vendor

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
02/24/2023	ACH5859	Vertiv Corporation	$	3,488.55
01/27/2023	ACH5758	VOYAGER FLEET SYSTEMS INC	$	2,979.30
02/10/2023	ACH5806	VOYAGER FLEET SYSTEMS INC	$	2,946.03
01/13/2023	39746	Waste Pro Bradenton/Sarasota	$	190.00
02/10/2023	39770	Waste Pro Bradenton/Sarasota	$	190.00
01/13/2023	ACH5717	WOMACK SANITATION INC	$	298.00
02/10/2023	ACH5807	WOMACK SANITATION INC	$	750.00
02/24/2023	ACH5860	Woodard & Curran Inc	$	16,470.00
		Total	**$**	**4,415,709.71**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/27/2023	ACH5721	ALFA LAVAL INC	$	256,706.42
01/13/2023	39737	FLORIDA POWER & LIGHT COMPANY	$	234,485.74
02/10/2023	39761	FLORIDA POWER & LIGHT COMPANY	$	222,920.51
01/13/2023	ACH5668	C & S CHEMICALS INC	$	174,140.82
02/24/2023	ACH5850	STANTEC CONSULTING SERVICES	$	173,632.72
02/24/2023	ACH5845	Poole & Kent Company of Florida	$	172,824.87
01/13/2023	ACH5667	Brenntag Mid-South Inc	$	116,422.47
02/24/2023	ACH5818	Brown and Caldwell	$	115,648.55
01/12/2023		QuickBooks Payroll Service	$	113,231.54
02/09/2023		QuickBooks Payroll Service	$	109,539.67
02/23/2023		QuickBooks Payroll Service	$	109,362.53
01/26/2023		QuickBooks Payroll Service	$	107,342.31
02/10/2023	ACH5774	CHARLOTTE COUNTY BD OF COMMISSIONER	$	106,500.01
01/13/2023	ACH5675	CHARLOTTE COUNTY BD OF COMMISSIONER	$	104,762.51
01/27/2023	ACH5725	C & S CHEMICALS INC	$	96,873.70
02/24/2023	ACH5819	C & S CHEMICALS INC	$	96,590.34
02/10/2023	ACH5770	C & S CHEMICALS INC	$	89,400.08
02/10/2023	ACH5769	Brenntag Mid-South Inc	$	86,847.60
01/13/2023	ACH5689	GARNEY CONSTRUCTION	$	74,311.00
01/27/2023	DBT013123	FLORIDA DIVISION OF RETIREMENT	$	71,258.71
01/13/2023	ACH5678	DESOTO COUNTY (V)	$	66,333.33
02/10/2023	ACH5777	DESOTO COUNTY (V)	$	66,333.33
01/13/2023	ACH5669	Calgon Carbon Corporation	$	59,200.00
01/27/2023	ACH5726	Calgon Carbon Corporation	$	59,052.00
02/10/2023	ACH5771	Calgon Carbon Corporation	$	58,667.20
01/27/2023	dbt012723	Valic	$	54,582.03
02/24/2023	DBT022423	FLORIDA DIVISION OF RETIREMENT	$	54,407.04
01/27/2023	ACH5738	JOHNSON ENGINEERING INC	$	51,783.10
02/10/2023	ACH5767	BLACK & VEATCH	$	49,187.85
02/24/2023	ACH5817	Brenntag Mid-South Inc	$	48,374.38
02/10/2023	ACH5798	Razorback LLC	$	47,764.00
02/10/2023	ACH5808	Global Document Services	$	46,014.52
01/27/2023	DBT012723	United States Treasury	$	43,174.48
02/10/2023	ACH5764	ALLIED UNIVERSAL CORP	$	41,634.41
01/13/2023	DBT011323	United States Treasury	$	37,368.26
01/27/2023	ACH5750	Razorback LLC	$	35,840.00
02/10/2023	DT021023	United States Treasury	$	35,456.66
01/13/2023	ACH5660	ALLIED UNIVERSAL CORP	$	35,412.37
02/23/2023	DBT022423	United States Treasury	$	35,317.84
01/13/2023	ACH5709	STANTEC CONSULTING SERVICES	$	35,129.00
02/24/2023	ACH5811	ALLIED UNIVERSAL CORP	$	31,520.24
01/27/2023	ACH5754	UNDERWATER ENGINEERING SERVICES INC	$	30,500.00
01/13/2023	39742	PNC Bank N A	$	28,270.15
01/13/2023	ACH5681	EARTH BALANCE	$	26,637.86
02/10/2023	ACH5788	JANICKI ENVIRONMENTAL INC	$	25,180.00
02/24/2023	ACH5837	HAZEN AND SAWYER	$	24,875.42
02/10/2023	39763	KED GROUP INC	$	24,837.20
01/13/2023	ACH5696	JANICKI ENVIRONMENTAL INC	$	23,836.00
02/24/2023	ACH5847	RESPEC Company LLC	$	17,810.62
02/24/2023	ACH5860	Woodard & Curran Inc	$	16,470.00
01/13/2023	ACH5679	Destination Powersports	$	16,246.00
02/24/2023	ACH5840	JOHNSON ENGINEERING INC	$	16,007.50
02/10/2023	ACH5804	USA Bluebook	$	15,288.11
01/13/2023	ACH5701	MANSON BOLVES DONALDSON TANNER	$	14,920.46
01/13/2023	ACH5708	Razorback LLC	$	14,900.00
01/27/2023	39750	D M CONSTRUCTION CORP	$	14,299.74
01/13/2023	ACH5693	HAZEN AND SAWYER	$	14,235.43
01/27/2023	ACH5748	RESPEC Company LLC	$	14,201.38
02/24/2023	39773	D M CONSTRUCTION CORP	$	14,091.31
01/27/2023	ACH5733	Extreme Divers	$	13,952.42
01/13/2023	ACH5682	Entech Computer Services LLC	$	13,035.98
01/13/2023	ACH5712	Tanner Industries, Inc	$	12,843.66
02/24/2023	ACH5852	Tanner Industries, Inc	$	12,809.61
01/27/2023	ACH5737	HVMI LLC	$	11,419.70
01/27/2023	ACH5749	Public Resources Advisory Group Inc	$	10,420.81
01/13/2023	dbt011323	Valic	$	9,760.26
02/08/2023	ADBT020823	Valic	$	9,555.08
02/23/2023	adbt022323	Valic	$	9,552.31

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/27/2023	39755	SARASOTA COUNTY ENVIRONMENTAL UTILITIES	$	9,254.57
01/27/2023	ACH5722	ALLIED UNIVERSAL CORP	$	8,935.40
02/10/2023	ACH5760	AIR CENTERS-FLORIDA	$	8,694.06
02/24/2023	ACH5857	UNITED STATES GEOLOGICAL SURVEY	$	8,652.50
02/10/2023	ACH5781	Entech Computer Services LLC	$	8,384.00
01/13/2023	39740	KED GROUP INC	$	7,774.00
01/24/2023	ACH12312022	PNC Bank	$	7,613.95
02/24/2023	ACH5814	Apple Video & Photography Studio	$	7,545.00
02/10/2023	ACH5776	CORONADO LAWN SERVICE OF FL	$	7,383.00
02/24/2023	ACH5844	Natural Resources LLC	$	6,900.50
01/27/2023	ACH5732	EARTH BALANCE	$	6,856.65
01/13/2023	ACH5659	ALLIED ELECTRONICS INC	$	6,801.27
02/24/2023	ACH5829	Entech Computer Services LLC	$	6,520.65
01/13/2023	ACH5662	ASRUS LLC	$	6,210.00
01/13/2023	ACH5707	RESPEC Company LLC	$	5,115.00
02/10/2023	ACH5784	FLUID CONTROL SPECIALTIES INC	$	4,478.00
02/10/2023	ACH5773	CHARLOTTE COUNTY BCC - LANDFILL	$	4,467.00
02/24/2023	ACH5812	AMAZON Business	$	4,402.82
01/13/2023	ACH5699	Locher Environmental LLC	$	4,346.05
02/24/2023	ACH5848	Public Resources Advisory Group Inc	$	3,963.65
01/13/2023	ACH5691	GRAINGER	$	3,934.20
01/13/2023	ACH5674	CHARLOTTE COUNTY BCC - LANDFILL	$	3,930.71
02/10/2023	ACH5800	SIMS CRANE & EQUIPMENT	$	3,922.75
02/24/2023	ACH5832	Fisher Scientific	$	3,774.56
02/24/2023	ACH5820	CED - Port Charlotte	$	3,610.38
01/13/2023	ACH5656	Air Mechanical & Service Corp	$	3,560.00
01/27/2023	ACH5740	MADER ELECTRIC INC	$	3,500.00
02/24/2023	ACH5859	Vertiv Corporation	$	3,488.55
01/27/2023	ACH5742	Matt's Lawn Service	$	3,400.00
01/27/2023	ACH5736	Hach Company	$	3,385.67
02/10/2023	ACH5796	Precision Gate & Security Inc	$	3,374.00
01/13/2023	ACH5665	BLACK & VEATCH	$	3,230.94
01/27/2023	ACH5752	STANTEC CONSULTING SERVICES	$	3,199.50
01/13/2023	ACH5694	HDR ENGINEERING INC	$	3,179.50
02/10/2023	ACH5791	McKim and Creed INC	$	3,153.75
01/13/2023	ACH5716	Vanguard Cleaning Systems of SW Florida	$	3,150.00
01/27/2023	ACH5744	MSC INDUSTRIAL SUPPLY CO	$	3,036.07
02/24/2023	ACH5835	GRAINGER	$	3,021.37
01/13/2023	ACH5704	NATIONAL BUSINESS FURNITURE, LLC	$	2,990.50
01/27/2023	ACH5758	VOYAGER FLEET SYSTEMS INC	$	2,979.30
02/10/2023	ACH5806	VOYAGER FLEET SYSTEMS INC	$	2,946.03
01/13/2023	ACH5670	CED - Port Charlotte	$	2,934.04
02/10/2023	ACH5780	EARTH BALANCE	$	2,875.00
02/10/2023	ACH5772	CED - Port Charlotte	$	2,867.15
02/10/2023	ACH5805	Vanguard Cleaning Systems of SW Florida	$	2,850.00
02/10/2023	ACH5789	Apex	$	2,814.83
01/13/2023	ACH5663	AWC INC	$	2,770.41
02/24/2023	ACH5836	Hach Company	$	2,751.17
01/27/2023	ACH5731	DESOTO COUNTY BOCC	$	2,637.10
02/10/2023	ACH5787	HVMI LLC	$	2,558.00
02/10/2023	ACH5786	Hach Company	$	2,517.00
02/10/2023	ACH5790	Ardurra Group	$	2,497.50
01/13/2023	39735	DEX IMAGING	$	2,495.83
02/10/2023	ACH5792	MIS Moss Integration Solutions Inc	$	2,494.95
01/13/2023	ACH5683	Environmental Systems Research Institute	$	2,374.00
01/13/2023	ACH5661	AMAZON Business	$	2,301.23
01/27/2023	39753	PNC Bank N A	$	2,243.84
01/13/2023	ACH5715	USA Bluebook	$	2,211.10
02/24/2023	ACH5846	Precision Gate & Security Inc	$	2,125.00
01/13/2023	ACH5700	MADER ELECTRIC INC	$	2,063.74
01/13/2023	ACH5686	Florida Spec Services Inc	$	2,000.00
02/24/2023	ACH5858	USA Bluebook	$	1,996.99
02/10/2023	ACH5778	Destination Powersports	$	1,975.95
02/24/2023	ACH5825	CINTAS FIRE 636525	$	1,890.00
01/27/2023	ACH5735	Fisher Scientific	$	1,805.53
01/27/2023	ACH5755	US Plastic Corp	$	1,702.72

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
02/10/2023	ACH5766	BENCHMARK ENVIROANALYTICAL INC	$	1,684.50
02/24/2023	ACH5809	AIR CENTERS-FLORIDA	$	1,684.34
01/27/2023	ACH5728	CenturyLink-6358	$	1,644.19
02/24/2023	ACH5822	CenturyLink-6358	$	1,644.19
01/13/2023	ACH5672	CenturyLink-6358	$	1,637.68
02/24/2023	ACH5843	NATIONAL BUSINESS FURNITURE, LLC	$	1,620.30
02/24/2023	ACH5842	MSC INDUSTRIAL SUPPLY CO	$	1,610.69
02/10/2023	39760	DESOTO COUNTY WATER UTILITY	$	1,606.59
01/27/2023	ACH5720	Advanced Overhead Systems	$	1,549.30
01/27/2023	ACH5745	NATIONAL BUSINESS FURNITURE, LLC	$	1,531.25
02/24/2023	ACH5815	ASRUS LLC	$	1,530.00
02/24/2023	ACH5831	FEL-FT MYERS WATERWORKS	$	1,509.88
01/27/2023	ACH5723	AWC INC	$	1,430.00
01/13/2023	ACH5697	Apex	$	1,409.67
01/27/2023	ACH5739	Apex	$	1,374.46
01/27/2023	ACH5756	USA Bluebook	$	1,285.08
01/13/2023	ACH5713	THERMO ELECTRON NORTH AMERICA LLC	$	1,271.25
02/10/2023	ACH5799	ROGERS PETROLEUM INC	$	1,243.49
01/13/2023	ACH5692	Hach Company	$	1,239.26
02/24/2023	ACH5854	TRINOVA INC.	$	1,213.44
02/10/2023	ACH5761	Air Mechanical & Service Corp	$	1,211.34
02/10/2023	ACH5795	Practical HR Solutions	$	1,200.00
02/24/2023	ACH5833	Flotech INC	$	1,165.24
01/13/2023	39744	U.S. BANK EQUIPMENT FINANCE	$	1,052.67
02/10/2023	39769	U.S. BANK EQUIPMENT FINANCE	$	1,052.67
01/27/2023	ACH5718	AA ELECTRIC SE INC	$	1,044.11
01/13/2023	39738	HOME DEPOT	$	997.50
02/24/2023	ACH5816	BENCHMARK ENVIROANALYTICAL INC	$	951.00
01/13/2023	39732	AMAZON	$	930.96
01/13/2023	ACH5666	TOI TOI USA	$	866.96
01/13/2023	ACH5685	Fisher Scientific	$	865.70
02/24/2023	ACH5841	Matt's Lawn Service	$	775.00
01/27/2023	ACH5747	PRO-CHEM INC	$	757.60
02/24/2023	ACH5853	THE BANK OF NEW YORK MELLON	$	750.00
02/10/2023	ACH5807	WOMACK SANITATION INC	$	750.00
01/13/2023	ACH5703	MSC INDUSTRIAL SUPPLY CO	$	748.50
01/13/2023	ACH5677	CINTAS	$	709.22
02/24/2023	ACH5856	ULINE	$	695.90
02/24/2023	ACH5828	EARTH BALANCE	$	673.27
01/13/2023	ACH5698	KONE Inc	$	570.38
02/10/2023	ACH5797	PRO-CHEM INC	$	551.90
02/10/2023	ACH5763	ALLIED ELECTRONICS INC	$	551.53
01/27/2023	ACH5743	MCMASTER-CARR SUPPLY CO	$	528.58
01/27/2023	ACH5757	Vanguard Cleaning Systems of SW Florida	$	510.00
02/10/2023	ACH5759	1& Done Handyman LLC	$	500.00
02/24/2023	ACH5849	SOUTHWEST MOBILE MECHANIC	$	500.00
01/13/2023	39743	TRULY NOLEN Branch 093	$	495.00
02/24/2023	ACH5824	CINTAS	$	482.12
02/24/2023	ACH5827	DMS-FINANCIAL MGMT SERVICES	$	448.48
01/13/2023	ACH5680	DMS-FINANCIAL MGMT SERVICES	$	448.00
02/10/2023	ACH5779	DMS-FINANCIAL MGMT SERVICES	$	447.94
01/13/2023	ADBT011323	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
01/27/2023	ADBT012723	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
02/10/2023	ADBT021023	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
02/23/2023	ADBT022423	STATE OF FLORIDA DISBURSEMENT UNIT	$	444.75
02/10/2023	ACH5768	TOI TOI USA	$	433.48
01/27/2023	ACH5746	Navitas Credit Corp	$	416.91
02/10/2023	ACH5803	ULINE	$	403.37
01/27/2023	39754	SAM'S CLUB	$	400.06
01/27/2023	ACH5727	CENTURYLINK	$	386.70
02/24/2023	ACH5813	Apex	$	386.35
02/10/2023	39766	SARASOTA TROPHY & AWARDS INC	$	376.75
01/13/2023	ACH5671	CENTURYLINK	$	370.40
01/27/2023	ACH5724	BENCHMARK ENVIROANALYTICAL INC	$	369.00
02/24/2023	ACH5839	Jim Guida (V)	$	366.06
02/10/2023	ACH5775	CINTAS	$	353.87
02/24/2023	ACH5851	SUNSHINE ACE HARDWARE	$	344.91

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description	Amount
01/27/2023	ACH5751	SOLARES CONTROLS	$ 317.93
01/13/2023	ACH5664	BENCHMARK ENVIROANALYTICAL INC	$ 304.00
01/13/2023	ACH5714	TRULY NOLEN BRANCH 079	$ 303.00
02/24/2023	ACH5855	TRULY NOLEN BRANCH 079	$ 303.00
01/13/2023	ACH5717	WOMACK SANITATION INC	$ 298.00
01/27/2023	39757	TRULY NOLEN Branch 093	$ 297.00
02/10/2023	39762	HOME DEPOT	$ 287.77
02/10/2023	ACH5783	Fisher Scientific	$ 283.17
02/10/2023	39759	AWWA	$ 266.00
02/10/2023	39768	TIRE KINGDOM	$ 262.38
01/13/2023	ACH5658	ALFA LAVAL INC	$ 257.24
02/10/2023	ACH5785	Frontier-941	$ 250.07
02/10/2023	39767	SMITH RANCH & GARDEN INC	$ 250.00
01/13/2023	ACH5687	Frontier-941	$ 245.84
01/13/2023	ACH5688	FRONTIER COMMUNICATIONS-305	$ 240.98
02/24/2023	ACH5834	FRONTIER COMMUNICATIONS-305	$ 240.98
01/13/2023	ACH5657	AIRGAS USA LLC	$ 240.29
02/10/2023	ACH5762	AIRGAS USA LLC	$ 240.29
02/10/2023	ACH5793	MSC INDUSTRIAL SUPPLY CO	$ 239.22
01/27/2023	39749	Braden River Utilities LLC	$ 230.10
02/10/2023	ACH5801	SUNBELT RENTALS	$ 223.34
02/24/2023	ACH5826	Destination Powersports	$ 212.99
02/10/2023	ACH5794	Navitas Credit Corp	$ 211.58
01/13/2023	39746	Waste Pro Bradenton/Sarasota	$ 190.00
02/10/2023	39770	Waste Pro Bradenton/Sarasota	$ 190.00
01/27/2023	39756	TIRE KINGDOM	$ 187.86
02/24/2023	ACH5838	Hostetler Irrigation Inc	$ 180.90
02/10/2023	ADBT21023	Michigan Child Support (ExpertPay)	$ 171.72
02/24/2023	adbt022423	Michigan Child Support (ExpertPay)	$ 171.72
01/13/2023	ACH5695	Hostetler Irrigation Inc	$ 157.95
02/24/2023	ACH5810	Air Mechanical & Service Corp	$ 156.00
02/24/2023	ACH5821	CENTURYLINK	$ 150.79
01/27/2023	39752	NaturZone Pest Control	$ 146.79
01/27/2023	ACH5729	Centurylink 3363	$ 142.91
02/10/2023	ACH5765	AMAZON Business	$ 140.04
02/24/2023	39774	HOME DEPOT	$ 138.97
01/27/2023	ACH5741	Marisol Garcia (V)	$ 138.00
01/13/2023	ACH5706	PRO-CHEM INC	$ 136.90
01/13/2023	ACH5705	Pitney Bowes Purchase Power	$ 125.00
01/27/2023	39748	AMAZON	$ 117.68
02/24/2023	39772	Braden River Utilities LLC	$ 112.34
01/27/2023	ACH5753	U.S. TENT RENTAL INC	$ 104.94
01/13/2023	39739	INGMAN MARINE	$ 102.85
01/13/2023	ACH5673	Certain Services INC	$ 100.00
01/27/2023	ACH5730	CINTAS	$ 99.00
01/13/2023	39745	VERIZON WIRELESS	$ 98.18
01/27/2023	39758	VERIZON WIRELESS	$ 94.33
02/24/2023	39776	VERIZON WIRELESS	$ 93.39
01/13/2023	39733	AWWA	$ 90.00
02/10/2023	39765	NaturZone Pest Control	$ 83.79
01/13/2023	39741	NaturZone Pest Control	$ 79.80
01/13/2023	ACH5711	SUNSHINE STATE ONE CALL OF FL INC	$ 68.68
02/10/2023	ACH5802	SUNSHINE STATE ONE CALL OF FL INC	$ 68.68
01/13/2023	ACH5702	Marisol Garcia (V)	$ 63.00
01/13/2023	ACH5676	CHENANGO SUPPLY CO., INC.	$ 55.95
01/27/2023	ACH5734	FEDERAL EXPRESS	$ 51.02
02/10/2023	39764	M&K Quality Decks Inc	$ 50.00
01/13/2023	ACH5710	SUNSHINE ACE HARDWARE	$ 39.69
01/27/2023	ACH5719	Abacus Web Services	$ 31.25
02/24/2023	39775	SAM'S CLUB	$ 27.98

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

By Amount Largest to Smallest

PUBLIC FUNDS INTEREST CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/13/2023	39734	BILL'S BOTTLED WATER SERVICE	$	16.75
02/24/2023	39771	BILL'S BOTTLED WATER SERVICE	$	16.50
01/13/2023	ACH5684	FEDERAL EXPRESS	$	11.99
02/24/2023	ACH5830	FEDERAL EXPRESS	$	11.41
02/10/2023	ACH5782	FEDERAL EXPRESS	$	9.94
01/13/2023	39736	FLORIDA DEPT OF TRANSPORTATION	$	6.78
01/27/2023	39751	FLORIDA DEPT OF TRANSPORTATION	$	2.50
02/10/2023	DBT021023	Michigan Child Support (ExpertPay)	$	2.50
		Total	**$**	**4,415,709.71**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

CONSTRUCTION CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/13/2023	CACH219	Manson Bolves Donaldson Tanner PA	$	16,675.00
01/13/2023	CACH220	STANTEC CONSULTING SERVICES	$	46,184.20
01/13/2023	2777	Woodruff & Sons, Inc.	$	132,526.16
01/27/2023	CACH222	GARNEY CONSTRUCTION	$	996,651.20
01/27/2023	CACH223	HDR ENGINEERING INC	$	332,201.22
01/27/2023	CACH224	Ardurra Group	$	2,134.00
02/10/2023	CACH225	HVMI LLC	$	13,584.00
02/24/2023	2778	Woodruff & Sons, Inc.	$	295,622.31
02/24/2023	ACH5861	HVMI LLC	$	27,778.00
			$	**1,863,356.09**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

Alphabetically by Vendor

CONSTRUCTION CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/27/2023	CACH224	Ardurra Group	$	2,134.00
01/27/2023	CACH222	GARNEY CONSTRUCTION	$	996,651.20
01/27/2023	CACH223	HDR ENGINEERING INC	$	332,201.22
02/10/2023	CACH225	HVMI LLC	$	13,584.00
02/24/2023	ACH5861	HVMI LLC	$	27,778.00
01/13/2023	CACH219	Manson Bolves Donaldson Tanner PA	$	16,675.00
01/13/2023	CACH220	STANTEC CONSULTING SERVICES	$	46,184.20
01/13/2023	2777	Woodruff & Sons, Inc.	$	132,526.16
02/24/2023	2778	Woodruff & Sons, Inc.	$	295,622.31
			$	**1,863,356.09**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY

CHECK REGISTER: JANUARY & FEBRUARY 2023

By Amount Largest to Smallest

CONSTRUCTION CHECKING (PNC)

Date	Document Number	Payee Name / Description		Amount
01/27/2023	CACH222	GARNEY CONSTRUCTION	$	996,651.20
01/27/2023	CACH223	HDR ENGINEERING INC	$	332,201.22
02/24/2023	2778	Woodruff & Sons, Inc.	$	295,622.31
01/13/2023	2777	Woodruff & Sons, Inc.	$	132,526.16
01/13/2023	CACH220	STANTEC CONSULTING SERVICES	$	46,184.20
02/24/2023	ACH5861	HVMI LLC	$	27,778.00
01/13/2023	CACH219	Manson Bolves Donaldson Tanner PA	$	16,675.00
02/10/2023	CACH225	HVMI LLC	$	13,584.00
01/27/2023	CACH224	Ardurra Group	$	2,134.00
			$	**1,863,356.09**

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

ROUTINE STATUS REPORTS
ITEM 3

Peace River Regional Reservoir No. 3 (PR3)
Preliminary Design

ROUTINE STATUS REPORTS
ITEM 3

Project Status Report

Project: **Peace River Regional Reservoir No. 3 (PR^3) Project – Preliminary Engineering**

Date: April 5, 2023

Prepared by: Terri Holcomb, PE, Director of Engineering

Project Description

The key to use of seasonally available surface water as a reliable public water supply is the ability to harvest and store large volumes of water during relatively short periods of availability. The Peace River facility utilizes off-stream raw water reservoirs, and an aquifer storage and recovery system to support use of supplies skimmed from the Peace River as an alternative water supply, reliably meeting much of the drinking water needs in the District's southern water planning area. The Peace River Reservoir No. 3 (PR^3) Project will include a third off-stream raw water reservoir (minimum 6 BG capacity) at the Peace River site in DeSoto County, expanded river intake capacity and connecting pipelines.

The Reservoir No. 3 Project is supported by the Authority's Water Use Permit (20 010420.010) issued February 26, 2019 which authorized increasing the maximum daily withdrawal from the Peace River from 120 MGD to 258 MGD to enhance the capture and storage of excess flows during the wet season. The increase in withdrawal will facilitate gaining additional drinking water supply yield from this system. In addition, the Authority's 2020 Master Water Supply Plan identified an additional 15 MGD in alternative water supply capacity development is available from the Peace River Facility Expansion Project, inclusive of the PR3 Project. The Southwest Florida Water Management District is funding this portion of the PR3 Project in the amount of $3,625,000.

Current status

Work Order No. 2 'Peace River Regional Reservoir (PR^3) Project Preliminary Design, Permitting and Third-Party Review' with HDR Engineering, Inc. includes environmental and geotechnical site characterization; 15% and 30% Design Documents; Development of the Basis of Design Report; environmental permit applications and mitigation strategy development. Board Approval of the Work Order No. 2 – Peace River Regional Reservoir (PR^3) Project Preliminary Design, Permitting and Third-Party Review in the amount of $7,249,966.00 occurred on February 3, 2022, with a completion date of June 31, 2023. The Project is currently on schedule and on budget.

Project History Briefing

Project: **Peace River Regional Reservoir (PR3) Project Preliminary Design, Permitting and Third-Party Review**

Date: April 5, 2023

Prepared by: Terri Holcomb, PE, Director of Engineering

The following information summarizes the historical milestones and key events to date for Work Order No. 2 - Peace River Regional Reservoir (PR3) Project Preliminary Design, Permitting and Third-Party Review Project.

February 2022 Board approved the Peace River Regional Reservoir (PR3) Project Preliminary Design, Permitting and Third-Party Review Work Order No. 2 on February 3, 2022.

March 2022 The Site Characterization Task commenced with the Geotechnical Kick-Off meeting on March 1st. The Wetland Delineations began on March 17th and continued on March 18th and again on March 28th – 30th. The first Monthly Progress Meeting was held on March 17th. Geotechnical field investigations began on March 14th with the equipment being mobilized to the Reserve. Soil/auger borings and other geotechnical investigations will continue through June.

April 2022 The Monthly Progress Meeting was held on April 14th. Wetland delineations continued April 11th – 14th; and April 20th – 22nd. Geotechnical field investigations continued throughout the month of April.

May 2022 The Monthly Progress Meeting was held on May 10th. The Consultant held a System Conveyance Workshop on May 2nd with Operations, Engineering and Water Resources staff. An Environmental Permitting / Mitigation Strategy meeting was held virtually on May 12th. Geotechnical field investigations continued through the month of May.

June 2022 The Monthly Progress Meeting was held on June 9th, 2022. Geotechnical and Environmental field investigations continued through the month of June. A site visit to the existing intake structure was held on June 2 by the Consultant Team to coordinate siting and intake orientation design efforts.

July 2022 The Monthly Progress Meeting was held on July 14, 2022. 15 % Design Drawings and Basis of Design Report was received on July 15th, 2022. On July 25th a Communications Workshop was held to review the Authority's goals and messaging objectives for the PR3 Project. Authority staff met

with FWC staff in Tallahassee on July 27th to discuss the benefits of restoration efforts on Orange Hammock.

August 2022 A 15% Design – Review Workshop was held on August 16th with Consultant and Authority Staff to go over comments from Authority staff on the conceptual design. The Monthly Progress Meeting was held on August 18th via MS Teams in conjunction with a meeting on the conceptual preliminary mitigation strategy. Consultant attended a discussion on the preparation of presentation items for the upcoming Professional Staff Meeting. The Consultant provided a 15% Cost Estimate for the PR3 Project on August 31st and also provided an MS Teams presentation on the basis of the estimates also on August 31st.

September 2022 The Consultant presented an update on the PR3 Project – 15% Preliminary Design Milestone at the Professional Staff Meeting held on September 7th in Sarasota County. The Consultant provided a Communications Project Fact Sheet on the PR3 Project on September 12th. The Consultant performed additional geotechnical work including piezometer water quality testing on the PR3 site on September 15th.

October 2022 The Consultant presented an update on the PR3 Project – 15% Preliminary Design Milestone at the Board Meeting on October 5, 2022. The Consultant held a meeting on October 11th to discuss conceptual ERP Permitting strategy and milestones. A 15% Design Review Workshop was held at the PRF on October 18th to review comments received on the 15% Design Plans and Cost Estimate and was in conjunction with the Monthly Progress Meeting. On October 25th the Consultant held meetings on easement acquisition and mitigation efforts.

November 2022 The Consultant held a 30% Design and Conveyance Pipeline Workshop at the PRF on November 1st. A PR3 Cost Savings Alternative Discussion was held on November 9th. The Monthly Progress Meeting was held on November 10th. A Preliminary Design Cost Reduction Measure Memorandum was received on November 16th. The

December 2022 On December 1st, the Consultant Team held a preparation meeting for FDEP pre-application meeting held on December 6th. A Permitting Coordination Meeting was held with Authority staff and GC on December 9th. On December 12th, Authority staff met to discuss delivery methods for both the PR3 Project and the WTP Expansion Project. On December 14th – PR3 Project Manager and Authority Project Manager met to discuss obtaining a sub-consultant to assist with permitting agency coordination. There was no monthly progress meeting held in December.

January 2023 The monthly progress meeting was held on January 12th. On January 20th, The Consultant met with Green Source to develop a scope and fee for

assistance with environmental permitting coordination.

February 2023 The monthly progress meeting was held on February 15th. A meeting was held on February 13th to discuss the wetland mitigation approach and recent field investigations. Ongoing species surveys and geotechnical investigations occurred throughout the month.

March 2023 The monthly progress meeting and 30% design review workshop were held on March 20th. The 30% design deliverables were delivered on March 10th. A follow-up meeting on wetland mitigation and permitting updates was held on March 14th.

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

ROUTINE STATUS REPORTS
ITEM 4

Regional Integrated Loop System Phase 2B Pipeline Project
Progressive Design-Build

Project Status Report

Project: **Regional Integrated Loop System Phase 2B Pipeline Project**

Date: April 5, 2023

Prepared by: Ford Ritz, P.E., Project Engineer

The following information summarizes the project description and status. (see attached general project area figure).

Project Description

The Phase Regional Integrated Loop System Phase 2B Pipeline is approximately 13-miles of 42-inch diameter pipe beginning near the western end of the existing Phase 2 Regional Interconnect and 36-inch diameter Charlotte County Regional Transmission Main (CCTM), near the intersection of Harbor Boulevard and Veterans Boulevard in Charlotte County. As currently envisioned, based on the recently completed Phase 2B/2C Feasibility and Routing Study, the Phase 2B Pipeline will extend generally west and south, crossing the Myakka River terminating at or in the vicinity of the Charlotte County Utilities Gulf Cove Booster Station. The Phase 2B Pipeline Project will be delivered (designed, permitted, and constructed) via Progressive Design-Build (PDB). The project includes metering facilities, telemetry, and other appurtenances appropriate to make the Phase 2B Project fully functional for transfer and delivery of finished water, and support a future connection with the Regional Integrated Loop Phase 2C Interconnect. As pointed out at the April 2022 Board Meeting, Phase 2B/2C implementation will be subdivided into two separate projects. The Phase 2C Interconnect is anticipated to begin in 2029.

Progressive Design-Build Team Selection Process

On June 24th, 2022, the Authority received four Statements of Qualification proposals on a timely basis for Progressive Design-Build Services. The first Professional Services Evaluation Committee (PSEC) meeting was held on June 30th and all four Teams were shorted-listed and proceed to the interview stage. One short-listed Team declined the opportunity to interview. PSEC interviews with presentations were held on July 14th, 2022, and the top two (2) Teams were recommended to the Board on August 3, 2022, for delivery of the Regional Integrated Loop System Phase 3C Pipeline Project and the Regional Integrated Loop System Phase 2B Pipeline Project.

Current Status

Regional Integrated Loopy System Phase 2B Project Schedule Overview

The Project will be subdivided into 2 Phases. The schedule includes:

- Phase 1 – Includes - Contract for Progressive Design Build Services - scope and fee. Scope includes 60% design, property and permitting and GMP for Phase 2 Services. Scope/fee and Phase 1 Services are due September 20, 2022, for consideration at the October 5th, Board Meeting.
- Phase 2 – final scope and fee/GMP. Final scope and Phase 2 GMP includes, final design, construction, permitting, property acquisition, testing, and final completion. The Phase 2 GMP will be added to the Contract by Addendum and brought to the Board for consideration in October 2023.
- Phase 2B Pipeline Project final completion is scheduled for March 1, 2026.

On October 5, 2022, the Board approved the Contract with Woodruff and Sons Inc. for the Phase Phase 2B Pipeline, and Phase 1 Design Services for 60% Design and development of the Guaranteed Maximum Price, in the amount of $5,067,144.81.

Woodruff and Sons, Inc. submitted all insurance requirements for the Phase 2B Contract. The Contract was executed by the Authority and the Notice-to-Proceed for the project was issued to Woodruff and Sons, Inc., November 10, 2022.

Woodruff and Sons, Inc. November/December 2022 submitted Technical Memorandum No. 1 – Pipe Material and Size and Technical Memorandum No. 2 – Alignment and Easement including 10% Design Plans. Field services for the first 7-miles of the alignment from the termination of the Phase 2A Pipeline west along Hillsborough Blvd. to US-41. Field work including survey, geotechnical and subsurface utility engineering are underway.

In mid-February 2023, Woodruff and Sons, Inc. submitted 30% Design Drawings for the first 7-miles of the alignment and Technical Memorandums 3-to-6, on hydraulic analysis, water and road crossings, corrosion control and the Gulf Cove Booster Station. W&S anticipates completing the draft Basis of Design Report (30%) design in early April 2023.

Project History Briefing

Project: Regional Integrated Loop System Phase 2B Pipeline Project

Date: April 5, 2023

Prepared by: Ford Ritz, P.E., Project Engineer

The following information summarizes the historical milestones and events of the Regional Integrated Loop System Phase 2B Project.

- Project History – The Board approved the Contract for Professional Services with Kimley Horn Associates, Inc. (KM) for the 'Regional Integrated Loop System Phase 2B and Phase 2C Feasibility and Routing Study' on December 2, 2020, in the amount of $399,960. Kimley Horn was issued the Notice-to-Proceed on January 6, 2021. The Project was completed on time and within budget. Subsequently, the project was subdivided into two separate pipeline projects, the Phase 2B and Phase 2C.

- April 6, 2022, Board Meeting – KH presented the recommended route for the Phase 2B Interconnect Pipeline (2B.1) to the Board. The Authority stated that going forward the PH2B/2C project would proceed as two separate Projects, the PH2B Interconnect Pipeline and the PH2C Interconnect Pipeline. The PH2B Pipeline will use a Progressive Design Build Delivery approach for design and construction of the project. Final construction completion for the Phase 2B Pipeline Project is anticipated to be March 1, 2026. The PH2C Pipeline Project has been deferred until 2029 based upon projected water demands from Regional Customers/Members per the Authority's Capital Improvements Project (CIP) and Capital Needs Assessments (CNA) planning. The Board approved, a Motion for the Recommended PH2B Route, and a Motion for the Interlocal Agreement between Charlotte County and the Authority for the PH2B Project.

- May 24, 2022 - The Authority advertised for Statements of Qualifications (SOQs) for Progressive Design-Build Services for the Regional Integrated Loop Phase 2B and Phase 3C Pipelines. Per the Information Package, the Authority will make two awards, one for the Phase 2B Project and one for the Phase 3C Project. The top-rated Progressive Design-Build Team will select either the Phase 2B Project or the Phase 3C Project. The second highest rated Team will be select the other pipeline project.

- June 7, 2022 – Addendum No. 1 – Updates to Information Package - was posted for Progressive Design-Teams expressing interest.

- June 7, 2022 – Addendum No. 2 – Response to Questions – was posted.

- June 14, 2022 – Addendum No. 3 – Response to Questions (final) – was posted.

- June 24, 2022 – Four Progressive Design-Build Team SOQ packages were timely received. Each PDB Team consists of a Prime Contractor and Prime Engineer. Teams in alphabetical order include:
    - Garney Companies and Ardurra Group
    - Quality Enterprises and GradyMinor & Associates
    - Westra Construction and McKim & Creed
    - Woodruff & Sons and Kimley Horn

- June 30, 2022 – The first Professional Selection Evaluation Committee (PSEC) meeting was held, and all four Design Build Teams were short listed. The PSEC included 3-Authority representatives and one representative each, from Charlotte and Sarasota Counties. Per Committee Member evaluations of SOQ Proposals:
    - Garney Companies and Ardurra Group – rated first
    - Westra Construction and McKim & Creed – rated second
    - Woodruff & Sons and Kimley Horn – rated third
    - Quality Enterprises and GradyMinor & Associates – rated four (declined presentation and interview)

- July 14, 2022 – The second PSEC meeting was held for presentations and interviews. Woodruff & Sons, Inc. was recommended for the Phase 2B Regional Integrated Loop System Interconnect Project.

- August 3, 2022 – The Board Approved the PSEC's recommendation of Woodruff & Sons Inc., Design-Build Team for delivery of the Regional Integrated Loop System Phase 2B Pipeline. Staff began preparation of the Contract Documents on August 5th, 2022.

- September – Staff continues to negotiate Contract Documents including the Agreement, General Conditions, Exhibits, and Phase 1 Design Services Fee for the Project. The Regional Integrated Loop System Phase 2B Pipeline Project – Phase 1 Services Contract will be presented to Board for approval at the October 5, 2022 meeting.

- October 5, 2022 – Board approved the Contract with Woodruff and Sons Inc. for the Phase 2B Pipeline Project and Phase 1 Design Services for the 60% Design and development of the Guaranteed Maximum Price in the amount of $5,067,144.81.

- November 1, 2022 – Woodruff and Sons submitted final insurance requirements for the Contract.

- November 8, 2022 – Woodruff and Sons submitted Technical Memorandum No.1 - Pipeline Material and size and draft 10% design drawings. Woodruff and Sons will be collecting bids from Ductile Iron Pipe vendors, Steel Pipe vendors, and HDPE vendors for the Horizontal Directional Drill (HDPE) under the Myakka River. After Woodruff receives bid prices, they will compare the cost of the material and the cost installation for each type of Pipe (ductile or steel) and select most cost-effective approach.

- November 10, 2022 – The Authority executed the Contract and issued the Notice-to-Proceed for the Phase 2B Pipeline, Progressive Design-Build Project to Woodruff and Sons, Inc.

- December 1, 2022 – The Authority and Kimley Horn met (virtual) with Charlotte County Utilities staff & Jones Edmunds to discuss the Charlotte County Hydraulic Model for the Phase 2B Pipeline being developed.

- December 21, 2022 – Tech. Memo 2 PH 2B Pipeline - Alignment & Easement Requirements and updated 10% Design Drawings.

- January 11, 2023 – The Authority, and Woodruff and Sons met (virtual) with Charlotte County Public Works and the City of North Port Pump works to discuss the PH 2B pipeline along Hillsborough Blvd and Chancellor Blvd. and requested additional information.

- January 17, 2023 – The Authority and Woodruff and Sons met (virtual) to discuss Authority comments on Technical Memorandums No. 1 - Pipe Material and Size and Technical Memorandum No. 2. - Alignment & Easement Requirements.

- January 17, 2023 – Woodruff and Sons submitted their Order of Magnitude for Owner Direct Purchase of pipe, gaskets, fittings, and line valves for the first 7-miles of the Phase 2B Pipeline, beginning at the termination of the Phase 2A Pipeline west along Hillsborough Blvd. to US41. They anticipate receiving vendor bid quotes by February from pipe vendors.

- January 18, 2023 – The Authority and Woodruff and Sons and Kimley Horn met (virtual) with Charlotte County Utilities & Jones Edmunds to discuss Hydraulic Modeling. Based on the meeting flow projections to the Charlotte County Gulf Cove Pumping Station (south end of PH 2B) were determined to be within acceptable limits and a 42-diameter Phase 2B pipeline could convey flows to Gulf Cove including up-to 7-interconnects to the Charlotte County water distribution system along the alignment of the Phase 2B primarily along Hillsborough Blvd.

- February 16, 2023 – Woodruff and Sons submitted Technical Memorandums (TM), TM3 Hydraulic Modeling, TM4 Water and significant Roadway Crossings, TM5 Pipeline and Corrosion Control and TM6 Gulf Cove Booster Pump Station.

- February 22, 2023 – A 30% Design and ROM meeting was held with Authority and Woodruff and Sons staff to discuss the 30% design drawings and ROM development in preparation for the schedule Owner Direct Purchase meeting with Charlotte County schedule on March 2nd.

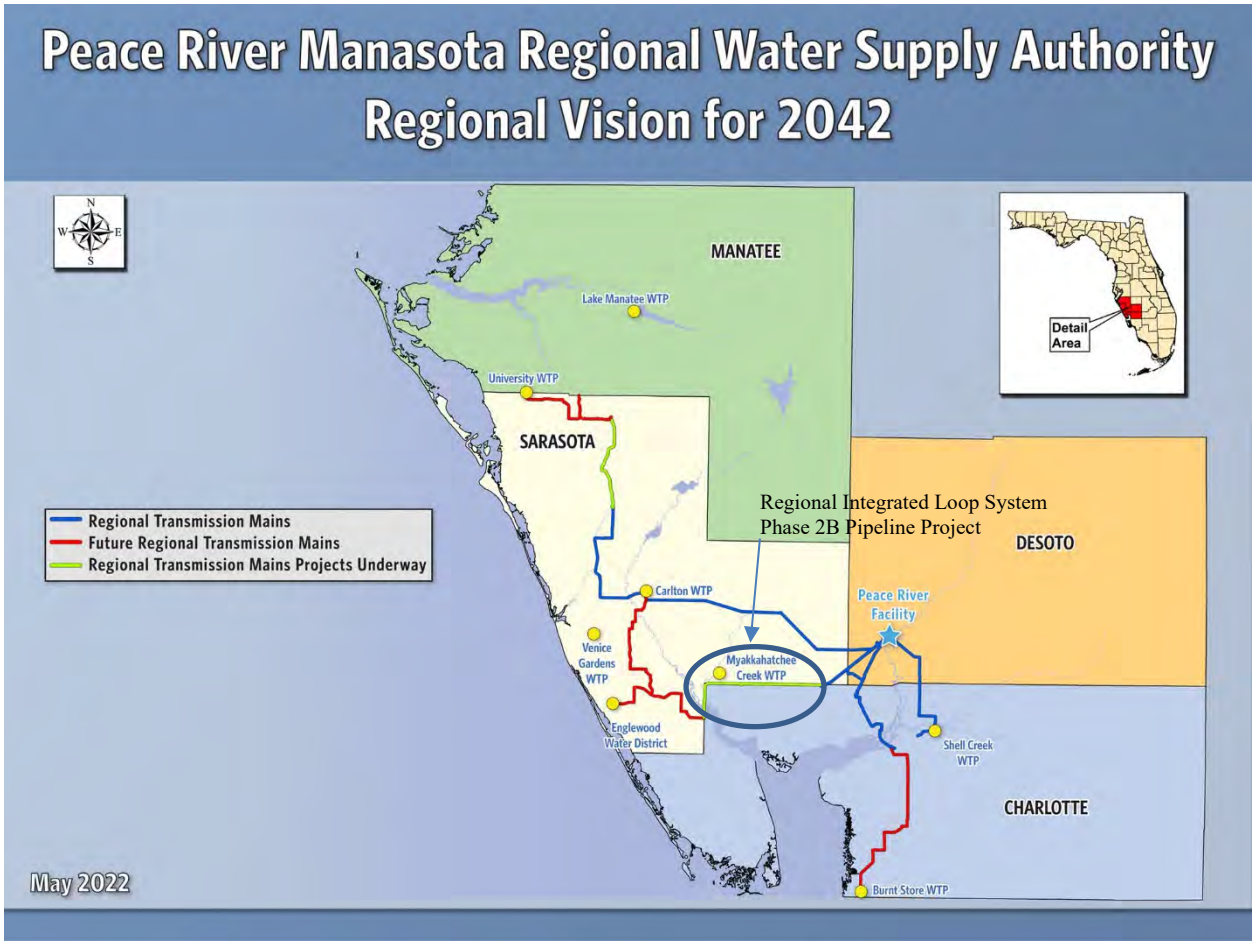
- March 2, 2023 – Owner Direct Purchase (ODP) Meeting with Charlotte County to discuss 30% ROM Projections and not to exceed amount for Owner Direct Purchase. Discussed project status (30% design), project schedule and development of the 10% design and 30% design drawings. Noted that the ODP of pipeline material will save about $1.25 million in taxes. Based upon vendor cost estimates of pipeline materials for 56,000 lf of 42-inch steel pipe, adjacent pipe and appurtenances, 42-inch isolation valves, adjacent valves and appurtenances. Woodruff and Sons explained that the current construction schedule start on the east end of the project (Hillsborough Blvd.) was October-November 2023. Therefore, pipe material has to be ordered in late April due to a 6-month+/- lead time. An agreed upon amount for a not-to-exceed ODP cost for materials was $20-million and will be taken to the April 5, 2023, Board Meeting for Board Approval. The meeting included Charlotte County Utilities, Authority and Woodruff and Sons staff.

- March 3, 2023 – Army Corps of Engineering Pre-application meeting (virtual). The meeting was attended by Authority, Woodruff & Sons and ACOE staff. The purpose of the meeting was to discuss project design parameters, required permitting and schedules, associated with water body crossings, including navigable and non-navigable waters along Hillsborough Blvd. and Chancellor Blvd., and the pipeline crossing of the Myakka River.

- March 8, 2023 - Florida Department of Environmental Protection Permitting Pre-application meeting (virtual). The purpose of the meeting was to discuss project design parameters, required permitting and schedules. The meeting was attended by Authority, Woodruff & Sons and FDEP staff.

- March 9, 2023 – A Workshop was held with Charlotte County and City of North Port, Utilities and Public Works Departments, respectively. The purpose of the meeting was to update the County and City on the status of the project and to discuss and answer design questions or identify the person to obtain follow-up information.

- During this period regularly scheduled bi-week progress meetings were held as well as preparation meeting for discussions with regulatory agencies, workshops, and submittal review meetings (drawings and TMs) with Woodruff and Sons.


Peace River Manasota Regional Water Supply Authority
Regional Vision for 2042
MANATEE
SARASOTA
DESOTO
CHARLOTTE
Lake Manatee WTP
University WTP
Carlton WTP
Venice Gardens WTP
Englewood Water District
Myakkahatchee Creek WTP
Peace River Facility
Shell Creek WTP
Burnt Store WTP
Detail Area
Regional Integrated Loop System
Phase 2B Pipeline Project
Regional Transmission Mains
Future Regional Transmission Mains
Regional Transmission Mains Projects Underway
May 2022

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

ROUTINE STATUS REPORTS
ITEM 5

Regional Integrated Loop System Phase 3C Pipeline Project
Progressive Design-Build

Project Status Report

Project: **Regional Integrated Loop System Phase 3C Pipeline Project**

Date: April 5, 2023

Prepared by: Mike Knowles, P.E., Engineering & Projects Sr. Manager

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The following information summarizes the project description and status (see attached general project area figure).

Project Description

The Regional Integrated Loop System Phase 3C Pipeline Project (Project) includes the design and construction of approximately 42,500 LF of 42-inch diameter pipe, a new 10 MGD pumping facility (expandable to 30 MGD) located near the northern end of the Project, and one finished water ground storage tank (estimated 5 MG). The project includes metering facilities, chemical adjustment, telemetry, backup power supply, and other appurtenances as deemed appropriate to make the project fully functional for water transfer and delivery. The pipeline begins at the northern end of the existing Regional Integrated Loop Phase 3B pipeline within Sarasota County near State Road 72 immediately east of Cow Pen Slough Canal. The pipeline will then extend generally north to the approximate vicinity of the intersection of Fruitville and Lorraine Roads where it will terminate at a delivery location with Sarasota County utilities existing infrastructure. The delivery of potable water through this pipeline needs to offer a high degree of flexibility to enable the delivery of the required supply and facilitate a future extension/expansion of the regional water transmission system to support future regional supply and connectivity goals.

Current Status

Since the February 2023 Board meeting update, the Design-Build Team has completed the 60% Design for the pipeline. These deliverables have been shared with key stakeholders including Sarasota County Utilities, Sarasota County Public Works, the SWFWMD, the City of Sarasota, and the Authority and review meetings have been completed to collect comments. Voluntary easement acquisition is ongoing with initial contact made with several parcel owners and the sketch and descriptions are finalized for easements along the entire pipeline route. Coordination is on-going with Sarasota County on the use of future right-of-way associated with the Loraine Road Extension Project. The Design-Build Team solicited bids for the early procurement of materials meeting the Authority's purchase policy after the Board approved an upper limit of $10 Million for owner direct purchase, purchase orders were issued for a portion of pipeline and isolation valves, and materials are expected on-site by mid-May 2023. The Phase 2 amendment covering final design and construction of the pipeline has been drafted and the Authority and Design-Builder are negotiating the terms of contingency and allowances.

Regional Integrated Loop System Phase 3C Project Schedule Overview

The Project will be subdivided into 2 Phases. The schedule includes:

- Phase 1 – Includes - Contract for Progressive Design Build Services - scope and fee to produce a Guaranteed Maximum Price (GMP). Scope includes 60% design, property and permitting. Scope/fee for Phase 1 due September 20, 2022, for consideration at the October 5, 2022, Board Meeting.
- Early Procurement Package – Initial order of long lead items by owner direct purchase for consideration at the December 7, 2022, Board Meeting.
- Phase 2 – Final scope and fee/GMP. Final scope and GMP includes, final design, construction, permitting, property acquisition, testing, and final completion. The Phase 2 GMP will be added to the Contract by Addendum and brought to the Board for consideration on April 5, 2023.
- Regional Integrated Loop Phase 3C Pipeline Project substantial completion is scheduled for March 1, 2025.

Project History Briefing

Project: Regional Integrated Loop System Phase 3C Pipeline Project

Date: February 8, 2023

Prepared by: Mike Knowles, P.E., Engineering & Projects Sr. Manager

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The following information summarizes the historical milestones and events of the Regional Integrated Loop System Phase 3C Project

History of Project Development

Phase 3C Feasibility and Routing Study Solicitation for Qualifications

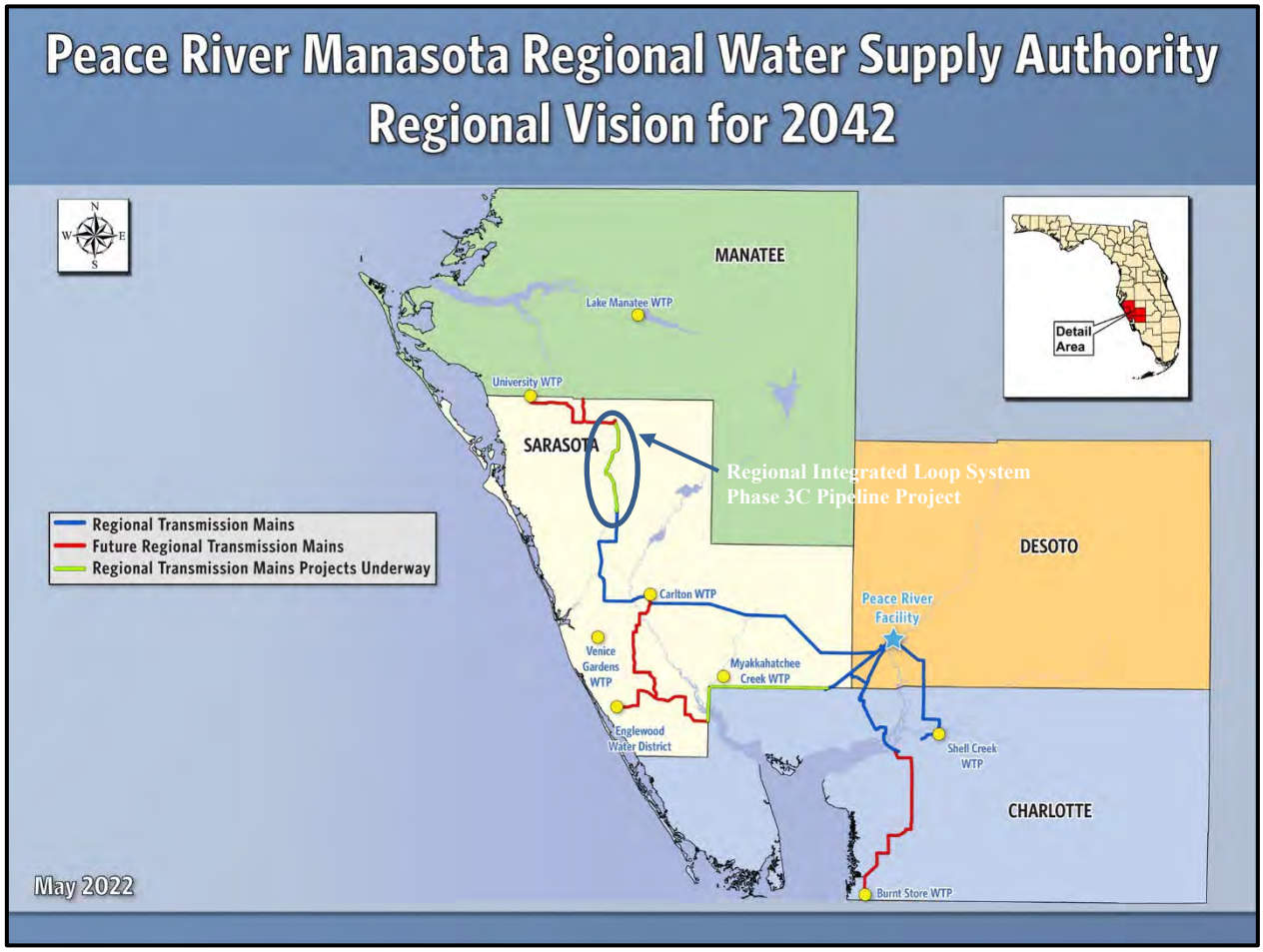
On June 23, 2020, a request for qualifications for a feasibility and routing study was advertised. Eight firms submitted qualifications on time. On August 11, 2020, three firms were shortlisted, based on Statement of Qualification, by the Authority Professional Selection Evaluation Committee (PSEC) for presentations and interviews. On September 2, 2020, Wade-Trim, Inc. was selected by the PSEC after presentations and interviews. The PSEC selection was approved by the Board on September 30, 202 and the professional services contract for Wade-Trim, Inc. on the feasibility and routing study was approved by the Board in December of 2020. The study was completed, and the results accepted by the Board in April 2022. The milestones of this study are detailed in the June 2022 Routine Status Report, Item 6.

Progressive Design-Build Solicitation for Qualifications

On May 24, 2022, a request for qualifications for Progressive Design-Build Services was advertised. Four Design-Build Teams submitted qualifications on time. On June 30, 2022, all four teams were shortlisted, based on the Statement of Qualification, by the Authority Professional Selection Evaluation Committee (PSEC) for presentations and interviews. On July 14, 2022, the Garney Companies, Inc., Progressive Design Build Team was selected by the PSEC after presentations and interviews for the Phase 3C project. On August 3rd, 2022 the Board approved the PSEC recommendation of Garney Companies, Inc. Design-Build Team for the Regional Integrated Loop System Phase 3C Pipeline Project.

- August 3, 2022 – The Board Approved the PSEC's recommendation of Woodruff & Sons Inc., Design-Build Team for delivery of the Regional Integrated Loop System Phase 2B Pipeline. Staff began preparation of the Contract Documents on August 5th, 2022.
- September 2022 – Staff continues to negotiate Contract Documents including the Agreement, General Conditions, Exhibits, and Phase 1 Design Services Fee for the Project. The Regional Integrated Loop System Phase 3C Pipeline Project – Phase 1 Services Contract will be presented to the Board for approval at the October 5, 2022, meeting.

- December 2022 – The Board Approved the Early Procurement Package not-to-exceed $10M. The Design-Build Team submitted 30% Design to the Authority and SWFWMD. Subsequent coordination meetings were held with the Authority, Sarasota County Utilities, Sarasota County Public Works, City of Sarasota, Florida Power & Light, and private land owners.



PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

ROUTINE STATUS REPORTS
ITEM 6

DeSoto Booster Pumping Station Project

Project Status Report

Project: **Desoto Booster Pump Station Modifications**
Formerly Known As – PRMRWSA Project Prairie Pump Station Acquisition and Modification Project

Date: April 5, 2023

Prepared by: Ford Ritz, P.E., Project Engineer

The following information summarizes the project description and current status. (see attached general project area figure).

Project Description

The Project Prairie Pump Station Acquisition and Modification project includes the regional purchase of the Pump Station and Storage Facilities from DeSoto County, and modifications to integrate the facility into the regional transmission system. The Facility is strategically located to support current and future regional water supply operations. The project is co-funded by the SWFWMD and the State of Florida. The estimated project cost including the purchase from Desoto County, Design and Construction of Facility modifications is $1,275,000. This is a Capital Improvements Project (CIP).

The Facility is located on the corner of U.S.17 and S.W. Enterprise Blvd. in DeSoto County and is adjacent and connected to the regional DeSoto County RTM and the bi-directional Phase 1 Regional Interconnect Pipeline. The Phase 1 provides a plant-to-plant connection between the Peace River Facility, and the Punta Gorda Shell Creek Water Treatment Facility located in Charlotte County.

Current Operations:

- Regional pipelines (DeSoto RTM or Phase 1) fill the 0.5-MG finished water storage tank – water source either the Peace River Facility or the Shell Creek Facility. Under normal operational conditions water is received from Peace River.

- DeSoto County trims chemical disinfection as needed and pumps water from the storage tank north into their distribution pipeline.

Future Operation:

- Increase Facility flexibility to be able to receive water from Peace River, Shell Creek or DeSoto County, trim and repump water, north, south, or east as needed.

- Provide capabilities to bypass the storage tank and repump, or bypass the facility; as determined by, operations and maintenance, or emergency conditions.

- Provide other capabilities per the Project Prairie Facilities Operational Protocol.

Project Scope:

- Modifications to facility piping and yard piping.
- Upgrades to disinfection chemical(s) storage and feed capabilities.
- Upgrades to SCADA interface, including a new radio and antenna.
- Evaluate existing meters and meter assemblies and make necessary modifications.

Current status

The Interlocal Agreement, between the Authority and Desoto County for the Acquisition of the Project Prairie Facilities has been executed and recorded. Additionally:

- Contract for Sale Purchase of the Property has been executed
- Ingress/Egress Easement for the Wastewater Lift Station (for Desoto County) has been executed

The Authority's Engineer-of-Record (Ardurra) was issued the Notice-to-Proceed for Work Order No. 1 - Design, Permitting and Construction Phase Services on March 25, 2022.

The Project Bid Opening was August 17, 2022. Three Contractors submitted bids on a timely basis. The apparent low bidder was TLC Diversified, Inc. (TLC) at a bid price of $1,1196,000. Ardurra the EOR reviewed the bids forms, checked TLC references and recommends Award of the Construction Contract to TLC.

At the October 5, 2022, Board Meeting – Board approved the TLC Construction Contract. The P.O. for the Work Order, under TLC's Continuing Services Contract was executed on October 12, 2022, and forwarded to TLC. The Notice-to-Proceed will be issued in early January 2023. Substantial Completion is 145 calendar days from the date of Notice-to-Proceed. Final Completion is 175 calendar days from the date of Notice-to-Proceed.

TLC was issued the Notice-to-Proceed on January 5, 2023, and anticipates mobilizing to the site in July 2023.

As of early March 2023, the SWFWMD FDEP grant agreement is still with District Counsel under review before execution. Once executed by the District, the Cooperative Funding Agreement No. 22CF0003733 will be amended to include pass through Grant Provisions (federal funds), revised total cost and task budgets, and a revised agreement expiration date of March 1, 2024.

Project History Briefing

Project: **Desoto Booster Pump Station Modifications**
Also Known As – PRMRWSA Project Prairie Pump Station Acquisition and Modification Project

Date: April 5, 2023

Prepared by: Ford Ritz, P.E., Project Engineer

The following information summarizes the historical milestones and events of the Project Prairie

- October 1, 2021 – The Interlocal Agreement, Purchase and Sale Agreement, and Operational Protocol for the acquisition of the Facility from DeSoto County was presented to the Board. Proposed funding sources include $200,000 from the State of Florida, and $537,500 each from the Authority and SWFWMD. The total project cost is $1,275,000.

- October 12, 2021 – Authority staff had a meeting to discuss the project and potential modification to the facility. Next steps include an internal meeting with Authority Operations and Maintenance staff, and meeting with DeSoto Operations staff. Upon Board approval of the project, a meeting with be held with the Ardurra (FKA King Engineering). Ardurra designed the Phase 1 Pipeline project which originally included yard piping alternates. The alternates were subsequently removed from the Phase 1 Pipeline final design package due to overall project cost uncertainty. Ardurra (Engineer of Record) is an Authority as needed consultant.

- October 12, 2021 – The FDEP Grant Agreement (LPA0208) for $200,000 was executed by the State. The Grant Agreement will be included on the December 1, 2021 Board Meeting agenda for Board approval.

- November 23, 2021 – A meeting between Authority staff and DeSoto County staff was held to discuss the upcoming project and operations of the Facility. In accordance with the acquisitional agreements between the Authority and DeSoto County, DeSoto County Utilities will continue to operate the Facility, subsequent to the purchase.

- December 2021 – The Interlocal Agreement between the Authority and DeSoto County for the Acquisition of the Project Prairie Facilities, generally consisting of a 500,000-gallon ground storage tank and associated piping, a 5 MGD booster pump station and chemical feed system, yard piping and emergency generator was Board approved on December 1, 2021, and by the DeSoto County BOCC on December 14, 2021. The Document includes:
    - Interlocal Agreement providing for Authority acquisition of the Facilities for $748,731.53 – which will be co-funded by SWFWMD and the State of Florida.
    - Contract for the Sales and Purchase of the site property parcel by the Authority for $36,000 from DeSoto County.

- January 25, 2021 – Closing on the purchase/sale of the property with Desoto County was completed.

- January 28, 2021- Authority held a scoping meeting with Ardurra (Engineer-of-Record) at the Project Prairie Facility, to tour the facility and discuss items to be included in Ardurra's scope of work for modifications/upgrades to be included in Ardurra's Work Order for Engineering Services. In general, items discussed included:

    - Underground repumping piping
    - Meter upgrades
    - Radio and antenna for Authority to monitor facility operations
    - SCADA/PLC Systems integration
    - Walmart fire flow pipeline – connect directly to Regional Piping
    - Chemical feed/trim facilities improvements

  It is anticipated that Ardurra will submit their draft scope of work in mid-March.

- March 10, 2021- The SWFWMD Q248, Funding Agreement-22CF0003723 for Project Prairie Facilities Acquisition and Modification Project entered into.

- March 25, 2022 – Ardurra was issued the Notice-to-Proceed for Work Order 1., for the DeSoto County Pumping Station Modification Project (DCBPS). W.O.1 lump sum cost is $85,300.

- April 1, 2022 - PRMRWSA Staff and Ardurra Staff met with DeSoto Counties Utilities at the DCBPS site to discuss day-to-day operations of the Facility. DeSoto County will continue to operate the Facility for the Authority per the Interlocal Agreement.

- April 14, 2022 – The SWFWMD Co-Funding Agreement (Q248) "Task Schedule and Budget Adjustment" was entered into. Construction and Engineering costs were adjusted, and the construction schedule was extended. The total cost for acquisition, design and construction of Facility Improvements did not change.

- May 11, 2022 – A Teams meeting was held with Ardurra and Authority staff to discuss progress on the 60% design. Per discussion, the tank inlet meter will be upgraded, and the pump station discharge meter upgrade will most likely be included as an alternative. Ardurra stated that the technical specifications have been completed.

- May 25, 2022 – Ardurra Instrumentation and Controls (I & C) Engineer met with Authority staff at the DeSoto Booster Pump Station to gather additional information and discuss existing operation. Discussions included how DeSoto County operates the facility currently, the County SCADA system and a potential new location for the radio antenna tower.

- May 27, 2022 – Ardurra and Authority met via teams with the Operations Manager at the Walmart Distribution Center (Stewart Heintz) to discuss the connection and water

delivery for fire flow from the DeSoto Booster Pump Station (DBPS) to the Walmart Distribution Center. Mr. Heintz discuss in general how the Walmart Fire Protection system works, how often they test their fire protection system and the components of the fire protection system. Mr. Heintz stated that Walmart has no issues with the fire flow connection and water delivery service from DBPS. The Authority and Ardurra discussed components of the upcoming project with Mr. Heintz and potential schedule.

- June 5, 2022 – Ardurra submitted 90% Interim Drawings and Div. 13 Instrumentation & Control Specifications, based on feedback from the Authority on the 60% Design Drawings and Specifications.

- June 7, 2022 – A Design review meeting was held at the Peace River Facility. The meeting attended by Ardurra and Authority staff. Design elements, instrumentation and controls/SCADA, Contract documents/bid form, permitting and the project schedule were discussed.

- June 10, 2022 – The Ardurra Interim 90% Design and Div. 13 Instrumentation & Control Specifications were forwarded to the District for review.

- June 17, 2022 – The Authority staff held a conference call with Ardurra Instrumentation and Control staff to discuss, equipment upgrades, and coordination between the existing DeSoto County SCADA system and Authority SCADA system.

- June 27, 2022 – Ardurra submitted 90% Design Contract Documents for the DeSoto County Pump Station Modifications to the Authority for review.

- July 6, 2022 – The Authority forwarded review comments of 90% Design Contract Documents submittal to Ardurra.

- July 13, 2022 – Ardurra submitted the Bidding Documents to the Authority for review. The Documents were forwarded to the SWFWMD.

- July 18, 2022 - The Invitation to Bid was posted on the Authority Webpage by Procurement. Contractors in the Authority's library of As Needed Construction Contractors: Water Treatment Process & Pipeline Construction, Repair & Replacement were invited to Bid.

- July 18, 2022 – Ardurra applied for the FDEP 62-555.900 Specific Permit to Construct PWS Components.

- August 1, 2022 – The pre-bid conference was held at the PRF followed by a site visit. Attendees include Authority Staff, Ardurra Staff, SWFWMD Staff and Contractors.

- August 5, 2022 – Addendum 1 was posted on the Authority Webpage by Procurement.

- August 17, 2022 – Three Bids were timely submitted. The apparent low bidder was TLC Diversified Inc. at $1,1196,000. Other Contractor Bids included Garney at $1,500,000 and Kiewit at $1,432,000.

- August 30, 2022 – The Notice of Intended Decision (NOID) was posted on the Authority webpage by Procurement.

- September 8, 2022 – FDEP issued the Permit to Construct – Permit No. 78714-028-WC. The permit was forwarded to SWFWMD.

- September 19, 2022 – Ardurra submitted the Engineers Recommendation Letter for Award Approval to TLC Diversified Inc. Back up included bid forms, bid tab and reference conformations.

- October 5, 2022 – The P.O. for the Desoto Booster Pump Station Modifications Project Construction Contract to TLC Diversified was Board Approved. The P.O. is incorporated by reference to the December 1, 2022, Agreement for As Needed Water Treatment and Pipeline Construction, Repair & Replacement services between TLC and the Authority. Funding for the construction includes $220,484 from SWFWMD and $975,516 from the Authority system-wide benefit Capital Improvements Project (CIP).

- October 19, 2022 – The executed P.O. for the Work Order under TLC's Continuing Services Contract was forwarded to TLC and SWFWMD. The Notice-to-Proceed will be issued to TLC in January 2023. Currently TLC is working on materials submittals and federal funding waivers. SWFWMD and FDEP are currently finalizing the agreement for American Rescue Plan Act federal funds being funneled to SWFWMD via FDEP.

- November 10, 2022 – The Authority sent a request to SWFWMD to extend the co-funding agreement expiration date for the following reasons:

    - impacts of hurricane Ian - TLC ongoing projects
    - hurricane impacts at the Peace River Facility
    - finalization of the agreement between FDEP and SWFWMD for federal funding

  In discussions, all parties Authority, SWFWMD, Ardurra and TLC agreed to a delay of the Notice-to-Proceed until early January 2023.

- January 5, 2023 – The preconstruction meeting was held and attended by TLC, Ardurra, Authority, SWFWMD and DeSoto County, staff. TLC has been providing shop drawing submittals for the project. To date, TLC has sent 23 submittals to Ardurra for review. The Notice to Proceed was issued to TLC on January 5, 2023, the District was copied. TLC anticipates mobilizing to the DeSoto Booster Pump Station project site in July pending material availability (as soon as they have materials to begin Work). Per discussion SWFWMD is going to Amend the CFA (co-funding) Agreement No. 22CF0003733 to include the full amount of the bid price and extend the co-funding expiration date to March 1, 2024, to address potential supply chain issues.

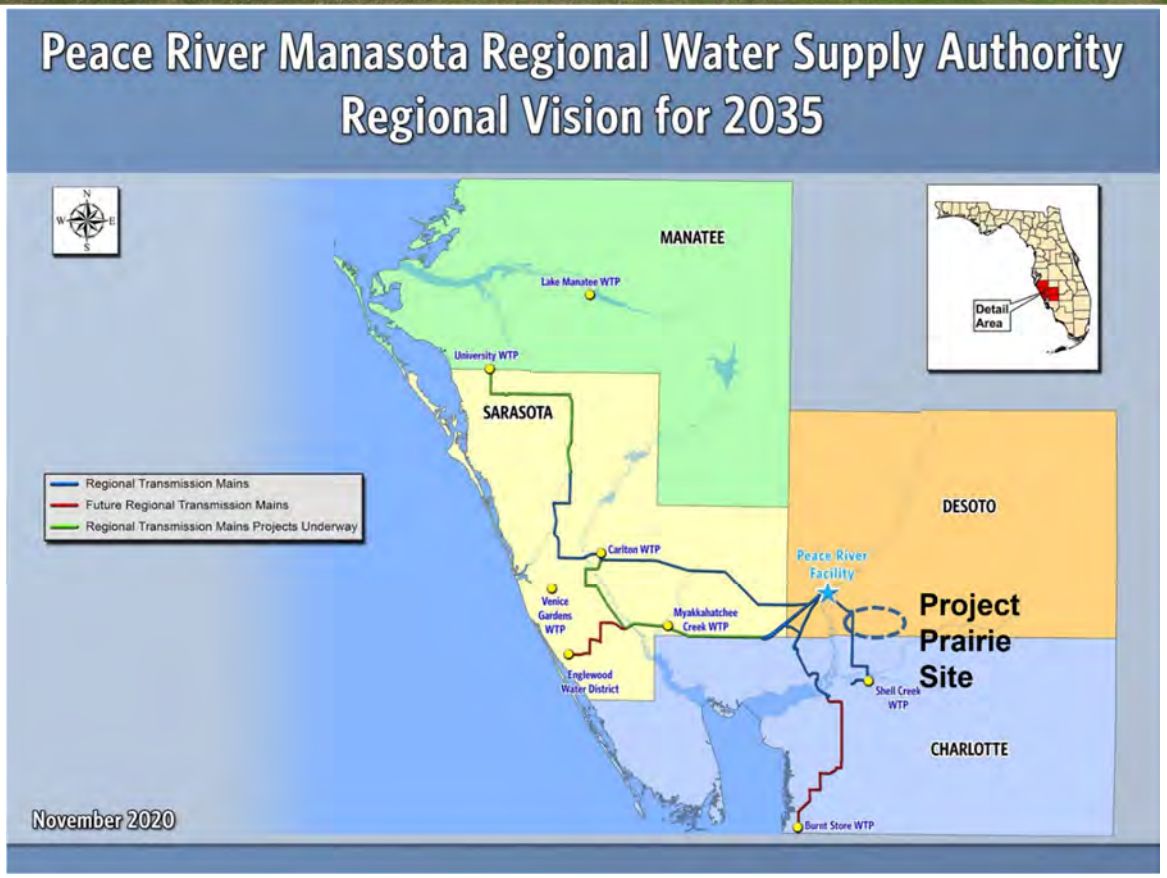
- January 12, 2023 – The Grant Agreement (federal funds) between the FDEP and SWFWMD, is currently with the District General Counsel for review and approval. Once approved and subsequently signed by the District Executive it will go to the District Board, for execution. The CFA amendment will follow and include pass through grant provisions, revised total cost and task budgets, and a revised agreement expiration of March 1, 2024.

- February 15, 2023 – Ardurra (EOR) conducted a soil boring at the project radio tower antenna location to confirm foundation design. The report was submitted to Authority for review and forwarded to the Contractor on February 28, 2023.

- February 21, 2023 – A meeting was held on site with Authority, TLC and Desoto County Utilities staff. The purpose of the meeting was to review existing Desoto County SCADA/I&C configurations with the TLC I&C subcontractor and review existing facilities and project design upgrades with TLC.

- March 10, 2023 - TLC has submitted 26 shop drawings to Ardurra for review to date. TLC anticipates mobilization for construction in July 2023.


U.S. 17
S.W. Enterprise Blvd.
PROJECT PRAIRIE PUMP STATION
DESOTO COUNTY


Peace River Manasota Regional Water Supply Authority
Regional Vision for 2035
MANATEE
SARASOTA
DESOTO
CHARLOTTE
Lake Manatee WTP
University WTP
Carlton WTP
Venice Gardens WTP
Englewood Water District
Myakkahatchee Creek WTP
Peace River Facility
Shell Creek WTP
Burnt Store WTP
Project Prairie Site
Detail Area
Regional Transmission Mains
Future Regional Transmission Mains
Regional Transmission Mains Projects Underway
November 2020

PEACE RIVER MANASOTA REGIONAL WATER SUPPLY AUTHORITY
BOARD OF DIRECTORS MEETING
April 5, 2023

ROUTINE STATUS REPORTS
ITEM 7

Peace River Basin Report

Manson Bolves Donaldson Varn
Attorneys At Law
Integrity. Intelligence. Diligence.

MEMORANDUM

TO: Board Members and Mike Coates

FROM: Doug Manson, Laura Donaldson, and Paria Shirzadi Heeter

RE: Peace River Basin Report

DATE: March 15, 2023

Mosaic Fertilizer, LLC- South Fort Meade Mine ERP

On March 11, 2022, Mosaic Fertilizer, LLC ("Mosaic") submitted an application to the Florida Department of Environmental Protection ("DEP") to expand the environmental resource permit ("ERP"), conceptual reclamation plan ("CRP"), and project area boundary of its South Fort Meade Hardee County ("SFM-HC") mine to incorporate approximately 132 additional acres (the "2021-01 Infills Parcels") within Section 30, Township 33 south, Range 26 east. The 2021-01 Infills Parcels are comprised of 129.2 acres recently purchased by Mosaic, along with 2.8 acres within the right-of-way of Platt Road, which Mosaic will ask the Hardee County Board of County Commissioners to vacate. The application states that acquisition of the 2021-01 Infills Parcels provides the ability for mining equipment to access 21.5 acres currently classified as "undisturbed" in the existing ERP (collectively, the expanded boundary and reclassification shall be referred to as "2021-01 Infills Project").

The 2021-01 Infills Project consists of 153.5 acres, which is comprised of: (1) increasing the SFM-HC mine boundary and corresponding ERP permit area to include the 2021-01 Infills Parcels; and (2) increasing the acres to be mined/disturbed to include portions of the 2021-

01 Infills Parcels as well as reclassifying a 21.5-acre area within the existing SFM-HC mine and ERP boundary from undisturbed to mined or disturbed. Extraction of the phosphate ore present will require approximately 1 year to complete. Mosaic's application for the 2021-01 Infills Project also requests the following modifications to the ERP: expand the surface water management (ditch and berm) system to encompass the expanded mine boundary/project area; authorize clearing of 9.20 acres of wetlands and 2.49 acres of other surface waters ("OSWs") within the 2021-01 Infill Parcels; re-establish drainage patterns through mine reclamation; and authorize the application of mitigation bank credits to offset wetlands/OSWs impacts.

Additionally, the application states that Mosaic is also applying for a State 404 Permit to authorize discharges of dredged or fill material into 11.69 acres of areas treated as waters of the United States that are located on the 2021-01 Infills Parcels. No other impacts to waters of the United States will occur within the modified project boundaries.

The existing South Fort Meade Mine discharges treated excess process wastewater, stormwater runoff, groundwater inflow, and reclaimed domestic wastewater from designated outfalls into unnamed swales that then discharge into the Peace River. The application for this permit modification states that during the construction phase, rainfall and runoff within the 2021-01 Infills Project area will be contained and routed to the mine water system. Any needed discharges will be in accordance with the South Fort Meade Mine Industrial Wastewater Facility Permit No. FL0037958, which authorizes construction and operation of outfalls into Parker Branch and Little Charlie Creek in Hardee County (both of which are located within the Peace River watershed).

On April 8, 2022, DEP issued a request for additional information ("RAI") to Mosaic in response to the permit renewal application, and Mosaic submitted its RAI response on May 18,

2022. The RAI and response include the following issues: sufficiency of the proposed mitigation (including whether the proposed mitigation fully offsets the functions of the wetlands and other surface waters in the Peace River proposed for impact); ERP supporting figures showing existing topography, jurisdictional areas, and post reclamation topography; explanation of how the different reclaimed stream designs will result in stable stream system post reclamation; missing aerial photos of each wetland; information on the during-mining condition for several sub-items (such as during mining construction plans and locations of existing and proposed outfalls); dimensions and elevations for the proposed excavated area; basin maps for the construction phase and basin acreages for all phases; updated hydrologic analysis and model information; the Integrated Water Use Permit dewatering and hydrologic monitoring plans; clarification or revision of submitted maps; and an inventory of supply wells, monitoring wells, and piezometers.

On June 17, 2022, DEP issued a second RAI to Mosaic, and Mosaic submitted its response on July 1, 2022. The second RAI and response include the following issues: updated forms and figures; documentation that the required number and type of credits have been reserved from an approved mitigation bank; backfill material volumes; and locations for proposed monitoring wells or piezometers. Additionally, on August 23, 2022, Mosaic provided revised maps, figures and tables for the 2021-01 Infills Project (as requested by DEP), including revised CRP plans/tables, revised ERP maps, and revised State 404 Permit maps. On November 16, 2022, Mosaic submitted revised mitigation and reclaimed wetlands tables for its CRP application and ERP application.

On February 28, 2023, Mosaic submitted a request to DEP that the South Fort Meade Mine– Hardee County CRP application (MMR_221122- 039) issuance be concurrent with the South

Fort Meade Mine– Hardee County ERP application (MMR_221122-037) permit issuance. Mosaic also agreed that DEP has until March 31, 2023 to issue these permits.

Mosaic Fertilizer, LLC- South Fort Meade Mine Eastern Extension

In August 2022, Mosaic submitted an application to DEP for an ERP (No. 0398010-002/003) for its South Fort Meade Eastern Extension (the "SFM-EE") mine. The proposed SFM-EE mine boundary is 3,170-acres. The SFM-EE project area will be comprised of the 3,170-acre mine boundary, as well as a 971-acre access/utility corridor and 202-acre dragline walkpath. SFM-EE is located east of Mosaic's South Fort Meade Mine-Hardee County and South Fort Meade Mine-Eastern Reserves ("SFM-ER"). The proposed project includes the mining of phosphate ore within the SFM-EE mine boundary to extend operation of the South Fort Meade Mine beneficiation plant, as well as construct necessary infrastructure. More specifically, the proposed access/utility corridor is 8.0-miles long, extending from the existing South Fort Meade mine boundary to the proposed SFM-EE mine boundary, and the proposed dragline walk path corridor extending from the SFM-ER mine boundary to the access/utility corridor is 4.2-miles long.

The SFM-EE project will impact 627.0 acres of wetlands and other surface waters. Mosaic's application includes permittee-responsible off-site mitigation plans to fully offset impacts of the proposed disturbance within the SFM-EE project area. The proposed mitigation is located in the same drainage basin as the proposed impacts—the Peace River Basin.

The existing South Fort Meade Mine water management system will be extended to service the SFM-EE property. The application explains that Mosaic will construct a berm around the perimeter of all active mining areas to sever the mining operations from waters of the state. Process water from the mine will be released to waters of the state only through outfalls permitted by DEP

under its Industrial Wastewater ("IW") Facilities Programs and Rules (i.e. the National Pollution Discharge Elimination System Program ("NPDES")), following treatment. A controlled outfall to surface waters will be installed and located as authorized by the IW Permit No. FL0037958. The application also identifies 2 potential outfall locations, and explains that 1 of these 2 locations will be selected following completion of an ongoing water quality based effluent limitations study if approved by the DEP in the IW permit.

In the application, Mosaic also states that it continues to evaluate future additions to the SFM-EE mine boundary as well as lands that adjoin existing mine boundaries. If properties are acquired that will be mined, separate applications will be filed in the future.

On September 2, 2022, DEP issued a RAI to Mosaic, and Mosaic responded on September 26, 2022. On October 17, 2022, DEP staff provided hydrologic and engineering review comments in response to the application and RAI response, and requested additional information from Mosaic related to hydrology and engineering issues (including a request to provide assurance that the additional flow through the new proposed outfall location would not negatively impact Charlie Creek or adjacent wetlands). DEP issued a second RAI on November 22, 2022, and Mosaic submitted its response on February 27, 2023. Mosaic's response to the RAI includes revisions to, clarification on, and/or additional information on: UMAM issues, mitigation to offset the wetlands/surface water impacts from the project, the construction and reclamation of the access corridor and walk path, two potential locations for new surface water discharge outfall (in order to beneficially return water to Charlie Creek), the proposed functional stream channel, the on-site stream mitigation, number of years that mining and reclamation will be ongoing (12 years), the engineering report, the Long

Island Marsh mitigation plan, the Little Charlie Creek offsite mitigation plan, the conceptual reclamation plan, and responses to DEP's hydrologic and engineering review comments.

All of the SFM-EE Mine drains west and southwest into Charlie Creek (Charlie Creek flows south until it connects into the Peace River), and the project area is wholly located in the Peace River watershed.

Mosaic Fertilizer, LLC- South Fort Meade Mine IW Facility Permit

On October 6, 2022, DEP published notice of its intent to issue a renewal of Mosaic's IW Facility Permit (IW Permit No. FL0037958) for continued operation of its South Fort Meade Mine Facility in Polk County. There are no proposed changes in the permitted activities. This permit authorizes the discharge of treated excess wastewater from its mining and beneficiation activities through 4 designated outfalls: Outfall D-001 discharges into an unnamed swale, then a tributary of the Peace River; Outfall D-002 discharges into an unnamed swale, a tributary of Parker Branch, then Little Charlie Creek, which discharges into the Peace River; Outfall D-003 will be designed to discharge into an unnamed swale, a tributary of Little Charlie Creek, which then discharges into the Peace River; and Outfall D-004 discharges into an unnamed swale, then a tributary of Little Charlie Creek, which then discharges into the Peace River. This permit also includes requirements to monitor potential impacts to groundwater. On December 5, 2022, DEP issued the IW permit renewal (No. FL0037958-022).

On October 14, 2022, Mosaic also submitted an application for a substantial permit modification (FL0037958-023) of its IW permit for its South Fort Meade Mine Facility in Polk County. Specifically, this application requests to construct a proposed Clay Settling Area ("CSA") SFM-11 at the South Fort Meade Mine. The application explains that the construction of the

proposed CSA SFM-11 is not expected to cause any changes or issues for the existing South Fort Meade Mine outfalls and there are no proposed changes in processing nor increase in production rates. The application also explains that, on March 11, 2022, Mosaic submitted an application for ERP MMR_221122-037 for South Fort Meade Infill Parcels (which includes an approximately 132-acre boundary extension within the South Fort Meade – Hardee mining area) that requested the additional South Fort Meade mining area to be included as part of the NPDES boundary, presuming approval of the ERP. On November 14, 2022, DEP issued a RAI related to: the Figure 2 Outfall Locations and Aerial; geotechnical information and boring locations; proposed pond construction details; cross sections for access roads, pipeline ramps, and installation of a discharge structure; the flow net analyses and stability analysis in the Geotechnical Report; and a piezometer location plan. On January 12, 2023, Mosaic provided clarifying information to DEP regarding its SFM-11A Clay Settling Area Design Report.

On February 9, 2023, Mosaic submitted an application for a minor permit modification (to its IW Permit No. FL0037958) to add additional acreage into the mine boundary for the Mosaic South Fort Meade Mine. The project and the associated acreage is referred to as the "SFM-Infill Parcels." The proposed project includes the mining of phosphate ore within a portion of the SFM-Infill Parcels and will add approximately 132 acres of land to the South Fort Meade mine boundary. The application states that: the proposed mining is not expected to cause any changes or issues for the existing South Fort Meade mine outfalls; there are no proposed changes in processing or any increase in production rates; and no new clay settling areas or outfalls are requested as a result of this permit modification.

The South Fort Meade Mine Facility is located at 5880 Manley Road, Bowling Green, in Polk County, Florida. The SFM-Infill Parcels are contiguous with the existing mine boundary, all within Section 30, Township 33 south, range 26 east (Hardee County).

Mosaic Fertilizer, LLC- Bartow Facility Cracks/Repair

On October 25, 2022, Mosaic notified DEP that on October 17, 2022, Mosaic discovered tears, ranging in length from 1 inch to 28 inches, in the vicinity of the North and South Gypsum Stacks at the Bartow Facility. Two of the tears, located on the North Gypsum Stack-South Pond, extend below water level. The notice explained that Mosaic reacted promptly and that the tears will be repaired. Additionally, on November 16, 2022, Mosaic notified DEP that it had observed a single tear, approximately two feet by two feet, above the water line, at the South Gypsum Stack West Ditch. The notice stated the tear will be repaired and that Mosaic will provide confirmation once the repairs are complete.

Most recently, Mosaic notified DEP that it discovered a liner tear at the South Gypsum Stack west seepage ditch on January 9, 2023. The notice stated that all observed liner damage is above the water level and that the tear will be repaired. Mosaic will provide confirmation once the repairs are complete.

Additionally, on January 4, 2023, Mosaic provided DEP its weekly update regarding work related to the South Gypsum Stack II-C area. The update explained that exploratory drilling (boring) was completed and that they are moving on to the soil sampling phase. It also stated that liner installation in the II-C temporary surge pond was nearly complete and that pre-work for siphon/piping installation was in the beginning stages.

The Bartow Facility is located at 3200 State Road 60 West in Polk County, at the boundary line of the Peace River watershed and over 50 miles away from the Peace River Regional Water Supply Authority Facility. However, one of the Bartow Facility's outfalls (Outfall D-002) discharges treated process wastewater, non-process wastewater, and stormwater to an unnamed ditch that flows to Six Mile Creek, which ultimately enters the Peace River.

Mosaic Fertilizer, LLC- Green Bay Facility

On May 5, 2021, DEP issued a final permit to Mosaic in response to its application (NPDES FL0000752-020-IW1S/RA) to DEP for a major modification of the wastewater discharge permit for its Green Bay Facility (the "2021 Permit"). The Green Bay Facility permanently discontinued all manufacturing activities and was idled in 2006, with plant closure initiated in 2012. The 2021 Permit authorized reactivation of the then inactive lined Green Bay Lined North Gypsum Stack ("Lined North Gypstack") to re-initiate or resume its use to accommodate ongoing phosphate manufacturing. The 2021 Permit for resuming operation of the Lined North Gypstack was limited to the dimensions that were previously permitted for construction by DEP (under PA File No. FL0000752-003-IW1N/RA) and included modifications to specific operations to incorporate the transfer of phosphogypsum from the Bartow Facility for use at the Green Bay Facility.

On August 25, 2022, DEP received an application from Mosaic to modify its NPDES Permit No. FL0000752 for its Green Bay Facility (PA File No. FL0000752-023-IW1N/RO) to include: a modification to the North Stack's west ditch to improve runoff and seepage water conveyance into the regional holding pond; enhancement to the 30-acre South surge pond ("SSP"); and improvements to the foundation drainage within the closed cooling pond area. The application explains that this minor modification will provide enhanced and continued operation of the gypsum

stack system and the construction work is not expected to cause any substantial change in phosphate processing. On September 23, 2022, DEP issued a RAI to Mosaic requesting additional information on the following: the capacity of Lined West Pond; the capacity of the SSP and how process water will be transferred to the SSP; a sequence chart for construction activities for this permit modification; and the turbidity controls and drainage systems that will be utilized for the storage of the proposed soil cover stockpile area. Mosaic responded to the RAI on October 10, 2022. On February 10, 2023, DEP issued notice of its preparation of the requested permit modification (FL0000752-023-IW1N/RO).

On January 9, 2023, Mosaic submitted another application for modification of its NPDES Permit No. FL0000752. This permit modification application is for the Green Bay Facility Phase II gypsum stack extension ("GB Phase II") (PA File No. FL0000752-024-IW1S/RA). The application explains that the GB Phase II extension will consist of an approximately 300-acre lined addition to the existing Phase I North Gypsum Stack. The engineering report submitted in support of the permit application includes: the background of the existing Green Bay phosphogypsum stack system; facility and area information; key design features of the GB Phase II extension and enhanced control and performance monitoring systems; the results of field geotechnical and geophysical explorations undertaken to evaluate subsurface conditions relevant to the potential for sinkhole development; laboratory testing; design criteria, construction provisions and technical specifications; operation, groundwater monitoring and surface water monitoring plans; and a general closure plan and closure cost estimate. On February 20, 2023, DEP issued a RAI to Mosaic requesting additional information on the following issues: water elevations, the Gypsum Stack Extension boundary, water balance, the microseismic foundation monitoring system, the drainage system, the hydraulic

connection of the west drainage ditch to the existing decant structure, hydrogeologic setting and the potential for sinkhole development, and groundwater and surface water monitoring plans.

Additionally, on February 14, 2023, Mosaic submitted to DEP its 2022 Annual Report for the Mosaic Florida Closing Facilities, Green Bay and South Pierce. The Annual Report included a statement that information is being gathered for an application to DEP for the Green Bay Facility to add one additional NPDES outfall to the east side. It explained that the purpose of this outfall will be to direct and restore post closure surface water runoff from certain portions of the closed gypsum stack to the Peace River watershed.

The Green Bay Facility is located in Bartow, Polk County, just outside of, but near the boundary of, the Peace River watershed, and the Bartow Facility is located in Bartow, Polk County at the boundary line of the Peace River watershed. The receiving waters for some of the Bartow Facility project's outfalls are located within the Peace River watershed. The topography within the GB Phase II areas to the east gently slope to elevations around 140 feet (NGVD) governed by the Sweetwater Branch and Six Mile Creek flowing easterly to the Peace River.

Mosaic Fertilizer, LLC- Hookers Prairie Mine

On November 13, 2018, Mosaic submitted an application to DEP for a renewal of its existing NPDES permit for its Hookers Prairie Mine (FL0033294), where phosphate mining has previously ceased. On November 19, 2021, DEP issued the final permit (FL0033294-025-IW1S/NR). The permit authorizes Mosaic to continue ongoing reclamation activities, including the abandonment of clay settling areas and the discharge of excess mine re-circulation water, recovered groundwater and stormwater through the following outfalls: Outfalls D-001 and D-002, each discharge into Hookers Prairie, a tributary of the South Prong Alafia River; Outfall D-03A discharges via a system

of reclaimed mine pits into Whidden Creek, a tributary of the Peace River; and Outfall D-005 flows into Bryants Branch, a tributary of the Peace River. The permit also authorizes the Hookers Prarie Mine to continue: to transfer mine circulation water as needed to the Mosaic South Pierce Chemical Complex and Duke Energy-Hines Energy Complex through Mosaic owned infrastructure; and to accept reclaimed wastewater from the city of Bowling Green into its water re-circulation system.

On February 23, 2023, DEP issued a letter approving the abandonment of Outfall D-001 (upon the completion of all activities indicated in the timeline submitted by Mosaic). The letter explained that on April 28, 2022, DEP received information for the abandonment of Outfall D-001, which satisfies the requirements of the NPDES permit conditions, and on January 5, 2023, DEP received sampling data that indicated water quality upstream of the outfall meets the applicable surface water standards. The February 23 approval letter stated that upstream Clay Settling Areas P-4 and P-5 are to be abandoned (breached and reconnected to Waters of the State), as part of the outfall abandonment, with no further mining wastewater flow contributions to Outfall D-001. Within 14 days after completion of the recontouring of upstream effluent ponds, Mosaic must notify DEP for an inspection of this area.

The Hookers Prairie Mine is located at 110 Agricola Mine Rd., Bradley, Florida in Polk County, and is divided into three drainage basins—including Whidden Creek and Little Payne Creek, which are both tributaries of the Peace River.

Mosaic Fertilizer, LLC- South Pierce Complex

On August 14, 2018, DEP gave notice of issuance of a permit renewal (FL0000370) to Mosaic for its existing South Pierce facility, which was undergoing closure at the time. The permit renewal allowed continuation of closure activities at the facility and the discharge of treated process cooling

pond water, excess fresh cooling pond water, and excess stormwater via Outfall D-001 into Hookers Prairie and then to the South Prong of the Alafia River, Class III Freshwaters. Operations at the facility include the production of sulfuric acid and co-generation of electricity, and support operations include sulfur storage and lime treatment for process wastewater operations.

On February 14, 2023, Mosaic submitted an application to DEP for renewal of its permit (FL0000370). In addition to renewing its permit, the application also requests the following changes to the permit: removal of any permit language relating to closure of the phosphogypsum stack as closure was completed in December of 2021 and approved by DEP in February of 2022; a minor change to the monthly discharge monitoring report; and some changes to the groundwater monitoring program (re-designating a background monitoring well as an observation well and extending the vertical zone of discharge for all parameters at a specified well cluster location). The renewal application package includes facility maps, narrative descriptions of current monitoring requirements, discussion of the five-year history of all permit-required monitoring, and sampling results and data.

The facility is located at 7450 County Road 630, North of Cr 630, East of SR 37, in Polk County, and is on or near the border of the Peace River Watershed.

Spanish Trails Farming & Land, LLC—ERP

On January 27, 2023, DEP published notice of receipt of an ERP application (File No. MMR_430404-001) from Spanish Trails Farming & Land LLC, to construct an approximately 184.50-acre stormwater management system for a new sand mining operation in DeSoto County. The proposed project includes approximately 63.21- acres of other surface water impacts. The site is located near Bermont Rd, heading North of St Rd 31 for 6.25 miles—the gate is at the

Charlotte/DeSoto line at 12996 FL-31, Arcadia, FL 34266. The project is within the watershed of the Peace River Basin.

Mosaic Fertilizer, LLC- New Wales Facility Leaks

On January 13, 2023, Mosaic notified DEP that it observed 3 liner tears, during a routine inspection of the Lined Emergency Surge Pond 1 atop the closed Phosphogypsum Stack at the Mosaic New Wales Facility. The notice states that all damage is above the water line and that Mosaic responded in a prompt manner. It also explains that the tears will be repaired and Mosaic will provide confirmation once those efforts are complete.

On February 3, 2023, Mosaic also notified DEP that it had possibly violated a provision of its Consent Decree relating to managing waste from a sulfuric acid plant at the New Wales Facility. The possible violation was that, on January 23, 2023, Mosaic personnel identified one drum labeled as hazardous waste in the sulfuric acid plant empty drum storage area that apparently exceeded the 90-day accumulation time limit for a large quantity generator. The drum was removed from the site on January 25, 2023 for transport to a permitted hazardous waste disposal facility. The notice explains that the drum may have been placed there inadvertently during site preparation activities in advance of Hurricane Ian, and explains the steps that have been taken to prevent such occurrences from happening in the future.

The New Wales Facility manufactures solid ammoniated phosphate fertilizers and animal feed ingredients, and is located on CR 640 West, southwest of Mulberry, in Polk County near the Hillsborough County line. A sinkhole developed in the Phase II West Area of the South Gypsum Stack in August 2016. A consent order was issued by DEP in 2016, and remediation of the sinkhole and groundwater recovery was undertaken in accordance with the consent order.

Mosaic Fertilizer, LLC- New Wales Facility

On January 31, 2023, Mosaic submitted an application to DEP to renew its NPDES permit (FL0036421-023) for its New Wales Facility. In addition to renewal, the application also requests modifications to the permit. The application requests a revision of the permit for authorization to construct the Phase IV Gypsum Stack Extension in accordance with the Phosphogypsum Stack System Construction/Operation Permit Application submitted concurrent with this renewal application. The Phase III Gypsum Stack Extension was authorized as part of the revised permit issued on October 15, 2021 as FL0036421-022 for construction of the Phase III Gypsum Stack Extension in conjunction with the 3-tiered Subsurface Activity Early Detection System ("SAEDS"). The Phase IV Extension will incorporate the same 3-tiered SAEDS as installed in the Phase III Extension. The proposed Phase IV Gypsum Stack Extension has a total area of 320 acres and abuts the south side of the Phase III portion of the South Gypsum Stack. The Phase IV Extension is comprised of: (i) a lined area of 226 acres for gypsum stacking; (ii) 23 acres of perimeter earthen containment dikes and toe roads; (iii) 45 acres of below-grade stormwater drainage ditches and access roads around the exterior perimeter of the ditch; and (iv) 26 acres of at-grade stormwater drainage ditches to route runoff from the west side of the Phase IV Extension. Of the total area of 320 acres, 35 acres are coincident with the existing Phase III portion of the South Gypsum Stack, resulting in a net change in area of 285 acres from the Phase IV Extension. The application states that a geophysical investigation of the Phase IV Extension identified several locations requiring further exploration with test borings and piezometer installations. This further exploration activity is underway, and a supplement to the Phase IV Gypsum Stack Extension Construction/Operation Permit Application is scheduled for submittal to DEP in July 2023.

The application also requests a change to the Outfall D-006 wastewater system to relocate an existing 4,100-foot-long reach of the Area A- 11 to Area K-4 drainage ditch to accommodate construction of the proposed Phase IV Gypsum Stack Extension. The only change requested to the groundwater monitoring requirements is to revise the inventory of monitor wells in a permit condition, and in accordance with the Construction/Operation Permit Application for the Phase IV Gypsum Stack Extension.

On March 2, 2023, DEP issued a RAI requesting additional information on the following issues: outfall design, the proposed wastewater treatment system, systems the facility has instituted to ensure in the event of upset conditions that the conveyance ditch system that conveys any spilled process water is functional, water balances, and stabilization operations. The RAI also states that the information provided does not appear to be based on sufficient hydrogeological and geotechnical investigations to address the required application information for an expansion of the phosphogypsum stack system pursuant to the applicable rule provisions. Mosaic is requested to respond regarding whether sufficient requisite Phase IV area investigations are expected to be completed in time for DEP's review and subsequent processing of an agency action on the pending wastewater permit renewal application.

The New Wales Facility manufactures solid ammoniated phosphate fertilizers and animal feed ingredients and is located on County Road 640 West, southwest of Mulberry, Florida near the Hillsborough County line. The Facility, through the Phase III Gypsum Stack extension, encompasses 2,260 acres, and will increase to 2,545 acres with the proposed Phase IV Extension. The facility has one outfall, designated D-006, located approximately 3 miles southeast of the facility boundary on the South Prong Alafia River.

Mosaic Fertilizer LLC—Lake Branch Dairy Pipeline Corridor

On January 17, 2023 DEP received a notice of intent to use a general permit (MMR_168844-001) to construct a pipeline from Lake Branch Dairy to the South Fort Meade ("SFM") SFM-9 Clay Settling area on Mosaic property to facilitate remediation of the dairy. The notice explains that the proposed pipeline will be constructed on or above existing grade using 24" and 48" HDPE pipe and will contain 29 crossings within the Peace River Basin. The proposed pipeline corridor will transfer limited volumes of dairy wastewater into the existing, permitted SFM-9 Clay Settling area for treatment/disposal. The proposed pipeline corridor is located at East County Line Road, Bowling Green, in Hardee County, Florida.

On February 17, 2023, DEP issued its regulatory approval finding that that the project meets the requirements for the requested general permit. However, DEP stated that separate permit(s) or authorization may be required from the U.S. Army Corps of Engineers for the project.

Mosaic Fertilizer, LLC—Golf Course Development

On February 21, 2023, Mosaic submitted a response to DEP's RAI on its application for an ERP modification (MMR_299578-010) to accommodate the proposed construction of The Chain at Streamsong development located in Polk County, Florida. The proposed project includes the construction of a golf course and associated infrastructure, including five 10-foot wide wooden pedestrian footbridges constructed over existing surface water bodies. The application and RAI response documents state that the proposed project impacts consist solely of piling-supported pedestrian footbridges over surface waters, with piling impacts totaling 142 square feet (0.0033 acres).

The project site is approximately 35 acres and is located within Section 17, Township 32 south, Range 24 east, within unincorporated Polk County, Florida. The project appears to be located within or near the Peace River watershed boundary.

Mosaic Fertilizer LLC—Agricultural Water Use Permit

On January 25, 2023, the Southwest Florida Water Management District ("SWFWMD") received a water use permit modification application (permit no. 2715.027) from Mosaic. As stated by SWFWMD staff in their February 6, 2023 RAI to Mosaic, it is unclear from the application submitted what allocation of water is requested. However, the current permit is for an annual average allocation of 3.924 million gallons per day ("mgd") and peak month allocation of 16.502 mgd. The RAI states that it appears the application may be requesting a change to the currently permitted allocation and requests clarification of what allocation is being requested. It also requests that Mosaic provide reasonable assurance that the withdrawal of groundwater for crop protection will not cause adverse impacts to other existing legal withdrawals. As of the date of this report, no response to the RAI has been submitted.

The permit is for agricultural uses in Polk and Hardee Counties and is located in the Southern Water Use Caution Area, the Central Florida Water Initiative, and Alafia River and Peace River basins.

Mosaic Fertilizer LLC—Mining Water Use Permit

On October 19, 2022, SWFWMD received a water use permit modification application (permit no. 11400.033) from Mosaic. The proposed permit modification is for an annual average allocation of 69.6 mgd and peak month allocation of 87 mgd. The application submittal explains that this modification is to modify the integrated water use permit ("IWUP") to incorporate 3,200 acres

of additional mining area to the South Fort Meade Facility (the additional area is referred to as the "Eastern Extension"). Given the distance between the Eastern Extension and South Fort Meade Facility, the connecting pipelines will require new sealing wells to sustain the pipelines' booster pumps. Therefore, the application also requests the addition of 54 new Upper Floridan Aquifer sealing water wells (42 active and 12 standby wells). The application is not requesting any additional groundwater quantities or any changes to the IWUP's currently authorized quantities. Groundwater allocations for the new wells will be from the self-relocation of currently authorized groundwater quantities assigned to the South Fort Meade Mine.

On November 18, 2022, SWFWMD issued a RAI to Mosaic, to which Mosaic submitted partial responses on February 16, 20, and 24, and March 15, 2023. The permit is for mining/dewatering uses in Polk, Hardee, DeSoto, Hillsborough, Manatee, and Sarasota Counties and is located in the Southern Water Use Caution Area and Manasota, Alafia River, and Peace River basins.

Dundee Property Holdings LLC—Water Use Permit

On February 23, 2023, SWFWMD issued a new water use permit (permit no. 21079.000) to Dundee Property Holdings, LLC for an annual average quantity of 0.612 mgd and peak month quantity of 115.673 mgd. Although classified as a "new" permit, it is actually the result of land transfers covered by an existing water use permit (20000097.006) and does not authorize any increase in the current permitted allocation. The permit is for agricultural uses in Polk County and is located in the Southern Water Use Caution Area and Peace River basin.

TerraNova Preserve LLC—Water Use Permit

On March 13, 2023, TerraNova Preserve LLC submitted an application to SWFWMD for a new water use permit (permit no. 21115.000). The application requests an annual average quantity

of 0.52 mgd and peak month quantity of 1.3 mgd for a new golf club that will be constructed in Myakka City, Florida. The permit application is for landscape/recreation (golf course) uses in Manatee County in the Southern Water Use Caution Area and Manasota basin.

Manatee County BOCC—Water Use Permit

On February 21, 2023, Manatee County BOCC submitted a water use permit modification application (permit no. 13343.005) for the implementation of Groundwater Replacement Credits at East County Field ("ECWF") and Buffalo Creek Well Field ("BCWF"). The application included an Impact Analysis Report prepared to support the requested implementation of Groundwater Replacement Credits ("GWRC"). It explains that the SWFWMD rules require that if a water use permit is requesting new groundwater withdrawals that causes impact in the Upper Floridan aquifer ("UFA") within the Most Impacted Area ("MIA"), it must utilize a Net Benefit strategy. Both well fields, ECWF and BCWF, will utilize the Mitigation Plus Recovery Net Benefit strategy, which requires that new drawdown in the UFA within the MIA boundary be offset plus an additional 10% of the drawdown impact provided as recovery in the MIA by use of a mitigation method. The application states that both well fields will utilize recharge of the UFA via GWRC and quantity retirement as mitigation. The GWRC and quantity retirement are earned by Manatee County supplying reclaim water to water use permits to offset groundwater withdrawals that cause impact in the UFA within the MIA. Both well field sites are under the management of the Manatee County Utilities.

The Manatee County permit is a consolidated water use permit including all their groundwater and surface water sources. The current total annual average quantity and peak month quantity for the entire permit is 54.836 mgd and 70.734 MGD. The current permitted quantity

allotted to the ECWF is 15.986 MGD with 3.1 MGD of groundwater flexibility available, bringing the total allotted quantity to 19.086 MGD. The current permitted quantity allotted to BCWF is 3.95 MGD. The flexibility quantity associated with ECWF and the total allotted quantity at BCWF are available due to the net benefit provided by previously calculated GWRC and retirement quantities. A previous GWRC quantity of 2,345,600 gpd, calculated in 2016, and a new GWRC quantity of 1,205,265 gpd, calculated in 2022, were used to calculate the new flex quantity associated with the ECWF. A GWRC quantity of 4,976,083 gpd and retirement quantity of 380,500 gpd was used to calculate the new total annual average quantity associated with the BCWF. The report states that the flex quantity at the ECWF and total quantity at the BCWF is feasible due to recharge of the UFA within the MIA from GWRC and retirement quantities.

On March 15, 2023, SWFWMD issued a RAI requesting, amongst other things, that Manatee County: reevaluate and recalculate the GWRC associated with the permit; reevaluate all associated water use permits to confirm that the total referenced GWRC are correct; confirm the actual quantity of reclaimed water that is being supplied to all the associated water use permits that are being used to provide GWRC; and provide an estimated schedule of when Water Use Permit Nos. 20013354, 20020955, and 20020956 will be modified to reflect the proposed reclaimed water that is to be provided by Manatee County in support of their request for GWRC.

The permit is for public supply uses and is located in Manatee County within the MIA, Southern Water Use Caution Area and Manasota Basin.